

THINKING Classroom

MISSION STATEMENT

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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THINKING Classroom

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Letter from the Editor

Globalization, the process Wendy Saul described so eloquently in the previous issue, is a fact of life. Whatever our own attitudes toward this process, when we look at our children, we must realize that we cannot stop it. My younger son, barely three years old, “reads” books sent to him by friends from Italy. That’s globalization. He has already mastered the computer mouse and loves to play a Russified version of the game *I Spy*, published by Scholastic (see <http://www.scholastic.com/ispy/>). This, too, is globalization, and frankly, I can’t see anything wrong in it. As the African proverb says, *It takes a village to raise a child*, and we do live in a global village. Appropriately enough, in my native language, Russian, the same word, *mir*, has been used for both *world* and *community* since time immemorial.

Fortunately, our global village is still a rather motley, patchwork structure. Differences in our educational systems reflect our psychological, cultural, and historical differences. It can be fascinating to try to assemble these apparently disparate pieces into a unified picture. We believe we have succeeded—sometimes by design and sometimes by accident—in accomplishing something of this nature: *Thinking Classroom* tries to do everything possible to estab-

lish dialogue between educators of various countries. But we cannot always predict the results of our efforts. Will an article from the Caucasus region (which embraces Armenia, Georgia, and Azerbaijan) be well received in southeastern Europe, in the Balkans? Will a school librarian in Moscow want to recommend articles from far-off countries to her colleagues? In fact, it has happened! We suddenly learn that an article on assessment written by Bahar Kerimova of Azerbaijan, in *Thinking Classroom* 5(2), will be translated and reprinted in Croatia (in the professional journal *Metodicki ogledi*). And Yelena Makarova, that Russian librarian I mentioned, insists that every teacher in her school read the “Strategic Moves” columns by William Brozo. While there may not be a direct connection to our editorial work, we are delighted to hear this! For we see this as the mission of the journal: to create a common, unified, educational space.

We have also noticed that certain topics keep recurring in articles from certain regions. Articles from the West, and the U.S. in particular, are often concerned with the educational ramifications of larger philosophical questions regarding social justice and equality. For example, in *Thinking Classroom* 4(3) (July, 2003) Christopher

Robbins discusses the intrusion of “business” into education, and Susan Finn Miller encourages teachers to become advocates for diversity.

Interestingly, authors from the former Soviet territories, the now disintegrated empire of “the Third Rome,” seem particularly concerned with finding ways to assemble and connect isolated pieces of information. You may recall Yury Vasilyev’s article, from Kyrgyzstan, “The Network of Concepts and Facts” in *Thinking Classroom* 4(2). The article by Uzbekistan authors Farberman and Musina in the current issue is in some ways similar to that piece, proposing a visual representation of the logical connections among facts.

The problem of assessment also keeps coming up in various guises. In this issue, Mehriban Ahmedova from Azerbaijan addresses the problem from the perspectives of both classroom teachers and providers of inservice education, all of whom are constrained by the current grading system. Lone Jorgensen and Sally Hansen, from New Zealand, discuss the use of portfolios as a tool for assessing and encouraging reflective thinking.

Another very popular topic is new literacies, many of which are themselves products of globalization. Gretchen Schwarz discusses the phenomenon of graphic novels, which have

Letter from the Editor

taken up a prominent position on the Internet as well as in bookstores in many parts of the world. As teachers, we need to figure out how to take advantage of this popularity, since the graphic medium offers an excellent tool for motivating reluctant readers and can also serve as a bridge across culture and language barriers.

Ideas for new teaching strategies are always welcomed by educators. Karen Foster's article (from the U.S.) on introductory questions and Marina Karapetyan's (from Armenia) on games in the classroom are valuable additions to the pedagogical arsenal.

As I write this, I am watching my son assemble random frag-

ments on the computer screen into a coherent picture. I am proud of him, and also a bit envious. I wish it were that easy for us as editors of *Thinking Classroom* to create a unified picture from the pieces of the education world....



Olga Varshaver

International Reading Association Awards

The recipients of several annual International Reading Association Awards and Fellowships were announced at the meeting of the Association's Board of Directors 29–30 April 2004. They include:

- Fiona Liddy of the National University of Ireland, Maynooth, who received the 2004 Reading/Literacy Research Fellowship for her proposal "Automaticity of Reading and Word Recognition in Irish-English Bilinguals."
- Susan Davis Lenski of Illinois, USA, who received the Gertrude Whipple Professional Development Program Grant for "The Development of a Handbook of Reading Strategies for Teachers in Central America."
- Michelle Commeyras and Helen Inyega of University of Athens, Georgia, USA, who received the Nila Banton Smith Research Dissemination Support Grant for the proposal "An Integrative Review of Research on Teaching Reading in Kenyan Primary Schools."
- Nancy N. Charron of University of Massachusetts, Lowell, USA, who received the Helen M. Robinson Grant for her proposal "Talk at the Terminal: The Effect of an Internet Pen Pal Program on Fourth Graders' Written Language Development and Attitudes Toward Writing."

Elva Knight Research Grants were awarded to:

- Holly V. Blackford, Rutgers University, Camden, New Jersey, USA, for the proposal "Multicultural Responses to Canonical Voices: Young Readers of *To Kill a Mockingbird* and *The Adventures of Huckleberry Finn*."
- Dixie D. Massey, North Carolina A&T State University, Greensboro, USA, for the proposal "Bridging School and Home Literacies: Preservice Teachers' Negotiation of Literacy Instruction and Family Needs."
- Lyndsay E. Moffatt of University of British Columbia/Toronto District School Board, Canada, for the proposal "Reading and the Performance of Social Identity in a Heterogeneous Population."



Information about applying for International Reading Association Grants and Awards can be found at <http://www.reading.org/awards/> or by e-mail from research@reading.org.

Assessing Reflection Through Portfolios

Introduction

Reflective portfolios have proven to be a useful tool to assess the progress of students in the Graduate Diploma of Teaching (Secondary) program at Massey University College of Education (MUCE). This program is a one-year preservice teacher training course for students with graduate or equivalent qualifications. The students are of varying ages and come from a wide variety of cultural backgrounds and subject specialties. Students in the program develop the beginnings of a personal philosophy of teaching and come to accept, and to demonstrate, a range of professional responsibilities toward students, parents, and colleagues (MUCE, 2002). Participants are presumed to have acquired specialist content knowledge before entering the one-year MUCE program. The training focuses on processes that will temper this knowledge into the tools of a reflective and professional teacher. Reflective processes do not develop in a vacuum—they need a structure and a foundation. This foundation can be provided by establishing and maintaining an atmosphere of inspired trust, and clear guidelines that enable students to feel safe when presenting their own thoughts and ideas.

A reflective portfolio, if presented and managed well in a teacher education program, can be the nexus for both documenting and informing the learning journey. The MUCE portfolio process exceeded the expectations of the course planners, but the process of making this an effective and valid assessment tool was not as straightforward as originally imagined (Doolittle, 1994; Forsler & Masters, 1996). Indeed,

some of our discoveries with regard to this tool were fortuitous rather than planned. Whereas some research indicates the importance of detailed rubrics in making portfolios into valid assessment tools (Morgan, 1999), we found that an open rather than prescriptive portfolio process was preferable for developing the traits we were aiming for.

Reflective practitioners

Effective teacher education should aim to produce “reflective practitioners.” This means both *reflection-in-action* and *reflection-on-actions*, where the former refers to “thinking on our feet” and the second involves time to explore the reasons for events as well as how we acted and reacted to particular situations (Dewey, 1933; Schon, 1983, cited in Smith, 2002;). This suggests that teacher education should equip teachers not only to teach but also to think about what they are doing when they are teaching, and to constantly appraise the situation in order to improve the teaching and learning. They also have to examine their observations in terms of their own reactions, their own expertise, and their own future development (Costa & Kallick, 2000). Schon saw reflective practice as an active process (Smith, 2002). The reflective practitioner cannot simply follow textbook schemes but has to think things through, reacting to each new situation yet drawing on experience of similar events from the past (Smith). There is no doubt that teaching is a profession where reaching a plateau of competence is not enough. Teaching, just like learning, is a dynamic, evolving process, where the lessons learned one day should inform

and shape the next day's lessons for both students and teachers.

The problem is that *reflection* has come to mean many things to many people, and there is a huge divergence in the range of conceptual interpretations and manifestations. Reflection appears to be one of those elusive, difficult-to-measure qualities. It is easy to recognize once you see it but difficult to describe in definitive terms, inevitably appearing somewhat "woolly."

Encouraging student teachers to question their entrenched beliefs about learning and teaching can be difficult (Hill, 2000). To do so requires critical thinking and reflective skills. In our course, training is specialized according to subject area, but all students must take general pedagogical studies and fulfil the teaching experience requirements, during which they must apply all the theories taught at college to real situations in the classroom. The students are then supposed to reflect upon the outcomes of the applied theories, how these outcomes align with intentions, and how the teaching experience has affected their own personal and professional development.

The tutors in our program faced the problem of how to assess the progress the students were making toward becoming reflective practitioners. As the process is continuous, involving a journey of personal growth, relying on an endpoint summation assessment was seen as inappropriate. In addition, research clearly supports ongoing formative assessment as a vehicle for increasing student motivation and achievement (Stiggins, 1999, 2002).

The use of portfolios to facilitate reflective skills in the students was inspired by the work by Kenneth Wolf (1991) and Ruth Sutton (1995). Wolf's synthesis of the research on teaching portfolios identified and answered many of the questions raised by the course planners at the time. These questions are continually revisited and reviewed.

Historical developments

Discussions prior to 1996 by the teaching staff in the Graduate Diploma program focused on creating a series of portfolios which could provide evidence of reflection and achievement

in conjunction with a hands-on Teaching Experience paper. We developed the notion of undertaking a journey, where personal and professional growth would be documented through a series of annotated reflections supported by evidence collected from the classroom.

The instructions for these first portfolios were very prescriptive, with every task clearly described and broken down into specific skills. Reflection was encouraged but not clearly explained. We expected that a natural development of reflective skills would occur as the year progressed, presuming that analysis and synthesis could be equated with reflection. Only later did we realize that, while these are necessary precursors, by themselves they do not go deep enough, nor do they encourage "an evolution and integration of complex ways of engaging in a critical examination of one's teaching practices" (Lyons, 1998, p. 116).

The portfolio method

The initial plans included two types of portfolios: *process portfolios*, tracking the student teacher's growth and self-discovery; and *terminal portfolios*, collecting the products of effective outcomes from the year's journey.

At the early stage the portfolio was expected to serve several needs: first, to function as an assessment and evaluation tool for the institution, while also encouraging personal and professional growth in the students; and second, to provide a display document for potential employment purposes. Such a multiplicity of goals has been demonstrated to be problematic (Borko, Michalec, Timmons, & Siddle, 1997). Nevertheless, the fundamental aims of the portfolio in the MUCE program were to serve as a record of development, a showcase of students' work, and a means of displaying assignments, projects, reports, and pieces of writing (Hurst, Wilson, & Cramer, 1998; Ladbroke & Middleton, 1997; Paris & Ayers, 1994; Seung-Yoeun, 2001).

While the original brief for the format of the portfolio was open, allowing for individual interpretation, the requirements for the content of the portfolio were very prescriptive in what it should or could contain. This structure was aimed at making the assessment of the

portfolio, and discussions between student and tutor on the portfolio process, easy to manage. Assessment was directly linked to the 10 learning outcomes included in the Teaching Experience outline:

1. identify your personal philosophy of teaching
2. demonstrate professional standards
3. plan and prepare written lesson plans
4. establish and maintain professional relationships with staff and the students you teach
5. manage student behavior in the school setting
6. demonstrate subject knowledge and skills
7. demonstrate familiarity with subject curriculum
8. apply assessment and evaluation processes, including assessment against Unit Standards where applicable
9. select, develop, and use a variety of learning and teaching resources
10. produce an evaluation of your professional performance

(MUCE, 1996)

For their portfolio presentations following each of four Teaching Experience episodes, students were asked to focus on any two of the first nine outcomes. Each learning outcome presented in the portfolio was then marked in accordance with strict criteria given to the students prior to the presentations. The overall portfolio itself was used for assessing learning outcome 10. Even though it was hoped that reflection would be one of the outcomes of assembling the portfolio, and this was encouraged through student/tutor conferencing, the Course Outline pertaining to the portfolio assignment and assessment placed no emphasis on reflection.

In 1997 the portfolio marking criteria were completely revised. It was decided that four main areas should be targeted: **organization and structure**, which would include such things as order and integration of material and user friendliness; **annotation**, with a brief explanation of the material included; **content**, which covered the range and quality of the material; and **evaluation**, which looked at student self-evaluation and

evidence of critical thinking. The first draft of these criteria was somewhat cumbersome and prescriptive. After a year of practical application, the criteria were further refined and pared to a minimum.

The revised portfolio

The task instructions were modified to be more open and less directive. Suggestions as to content and shape of the portfolio were kept to a minimum. Students were encouraged to present their own journeys in their own unique ways. The importance of moving toward becoming a teacher, rather than arriving at a destination, was stressed.

The final assessment of the learning outcomes was pared down to three possible levels. They are not very prescriptive and may seem, at first glance, to be somewhat superficial and subjective:

1. Material has been collected and labeled.
2. Material has been collected and organized. A variety of evidence has been presented and linked to the appropriate learning outcome.
3. Material has been collected and organized. A variety of evidence has been presented and linked to the appropriate learning outcome and has been analyzed critically in relation to present and future professional development.

While reflection was not specified in any of these criteria, and the literature warns about equating critical thinking and analysis with reflection (Lyons, 1998), level three does suggest an element of reflection linking this to professional practice. Initially, it was not considered necessary to make reflection an explicit part of the criteria, as these criteria were not seen by the tutors to be an essential part of the process or product. Students appear not to be driven by the criteria, but rather to use them as a guide. Of course, the criteria are useful to staff in providing a guideline against which to assess. After an evaluation of the portfolio process in 2002, it was decided to make the expectation of reflection explicit in the criteria especially at level 3. Thus for 2003, level 3 was modified to read

Material has been collected and organized. A variety of evidence linked to appropriate Learning Outcomes has been presented, analyzed critically, **and reflected on**, in relation to present and future development.

The portfolios submitted by MUCE students have been found to fit very comfortably into the three criteria levels. On the rare occasions where students reach only criteria 1, they are asked to resubmit the portfolio with additional evidence linked to the selected Learning Outcome. This revision process in itself becomes a learning experience. A student who is having difficulty integrating theory and practice will clearly have some difficulty writing about it in a positive reflective way. Reworking the portfolio helps both the student and the tutor to identify problematic areas and to reach a consensus as to how to address them.

As a result of the move toward less prescription and toward open briefs, the level of reflective skills expressed in the portfolios has increased considerably. The teacher trainees have been able to show and discuss their “before and after” thinking regarding real situations, to demonstrate links between experiences, and to document proposed changes in approach and planning.

There was an added bonus that was not anticipated—the students became attached to their portfolios. They began to see them as treasures, to share and compare. Allowing freedom of expression gave each student the opportunity to trace his or her journey individually, while still moving toward common goals and meeting course learning outcomes. Moreover, some of the initially reluctant students, such as one male who declared, “I don’t do reflection,” gradually became immersed in documenting and mapping their personal and professional journeys.

The improvements in, and increasing comfort with, reflective practice were particularly evident with male students, many of whom were at first somewhat wary of the process. Anecdotal evidence collected by tutors as they visited schools in the following years indicates that many students still treasure their portfolios and are adding to them two and three years later.

Portfolio problems

The students in the course come from a wide variety of backgrounds, with varying experience with regard to portfolio presentations. Some subject areas use portfolios as a natural part of the collation and presentation of materials.

Others give little training in the use of verbal or visual expressions. Thus, students trained as artists presented portfolios with high visual impact, and English language teacher trainees used words and images with flair. Mathematicians, scientists, and technologists, on the other hand, often found the whole process of portfolio construction most threatening.

With a majority of the subject specialists in technology, mathematics, and the physical sciences being male, the gender imbalance in the teachers of these subjects often translated into portfolio problems that became gender specific. Some male students explained that they felt uncomfortable with the notion of reflection, as it signaled a degree of personal disclosure that they felt was threatening. It became clear that this discomfort often impeded the reflective process, and had to be overcome at the individual level through close communication between tutor and student. These individual meetings, referred to as *conferencing*, developed close personal rapport and trust between the student and the tutor. The students would often verbalize personal reflections that they either felt uncomfortable putting into written words, or had considered too trivial to be considered “reflections.” When these students were encouraged to present their portfolios using a medium with which they felt comfortable, such as CD or video, the reflective process started to develop. Often the first hurdle was for the student to accept the idea that subjective statements, supported by teaching evidence, were as valid as the objective statements their subject training had emphasized. This shift is important in developing the personal skills that will enable these new teachers to better communicate and empathize with future pupils and their parents.

Problems could occur with the very confident portfolio producer as well as with the reluctant starter. It soon became clear that highly visual and expressive portfolios do not necessarily show high

reflective skills. This problem can be harder to identify when a student has a high degree of self-confidence in his portfolio construction skills and will not seek help from staff. Hence problems are often not noticed until after the presentation of these portfolios. While this does not occur often, it can cause distress to the students, and needs to be carefully handled in the conferencing process in order to steer the student toward the reflective outcomes desired by the course tutors.

Use of exemplars

The high quality of portfolios produced in this course can be directly attributed to the use of an exemplar of the best portfolio from 1998. The use of this exemplar was originally intended just to show what a portfolio is. It was not meant to represent best practice, although it was the best portfolio from that year. The example initially caused great anxiety in the students, but they then used it for inspiration, with the result that most portfolios of 1999 exceeded the best of 1998. This serendipitous event taught us the importance of best practice exemplars. With the students' permission a few examples of the best portfolios each year from representative subject groups have been photocopied and shown to the next year's group. As a result the portfolio quality has continued to improve.

Portfolio presentations

The types of portfolios are as varied as the students. For example, a highly colorful and visual portfolio was created by a student working together with his 11-year-old daughter: She decorated it beautifully, and he wrote the content. Another was very ordered, with tables, graphs, arrows, and annotations arranging the material in a very logical fashion. Other presentations included a series of small sequential envelopes in a treasure box, and a photographic essay supported with quotes and personal musings.

The following student reflections are examples of statements from the portfolios:

The job of a teacher is not what I expected. I find myself now having to be a father, mother, social worker, friend, counsellor, policeman, judge, disciplinarian, coach, and role model. The imparting of knowledge is only one small part of the job.

(Female English student)

I have learnt not to sweat the small stuff so much and have succeeded in becoming less stressed out whilst teaching. I will, however, unavoidably, remain a perfectionist as I think it is inherent in my nature. As long as I acknowledge it and remember not to take myself too seriously, it shouldn't be a problem.

(Female science student)

Of course kids test boundaries. That's how they learn. And most of all, most kids want to learn. I have never had to scream, threaten, or crack a whip to achieve that with children of any age. Am I doing something wrong, or am I doing something right?

(Male English student)

From prescription to open criteria

The move in the MUCE portfolios from the prescriptive to more open assessment criteria, and the success experienced in terms of reflective skills exhibited by the students, runs counter to some published results (Morgan, 1999). In Morgan's study, changing expectations of what the portfolio should be and should contain led from a chart, to a checklist, and then to a detailed rubric. The students in the study were also directed to collect, select, and reflect when creating portfolios. Morgan reached the conclusion that a quantitative instrument does not address the quality of the portfolio under review, but that a rubric, well-constructed, addresses the issue of quality, i.e., that a clear assessment tool is vital to the production and presentation of a quality portfolio.

Our experience, based on the outcomes of the portfolio process within our course, challenges that conclusion. This belief is reinforced by the following representative selection of students' comments:

The ethos of the portfolio is a place where I can try to create some order of the huge amounts of knowledge I have and will gain during the teaching experience.

It's such an awesome way of documenting my growth as a teacher. I think all assessment should be done like that.

Thus the traditional view of portfolios as an organized collection of best work over time and in a variety of contexts, structured around the key dimensions of learning (Wolf, 1991), is inadequate. Such portfolios become primarily "show and tell" documents for assessment. This

can distort the students' investment in the portfolio production and the way in which it is measured.

High stakes assessment can exert enormous pressure on the portfolio process, potentially distorting the assessment approach and undermining its original purposes.

(Wolf, 1991, p. 5)

This is supported by Stiggins's assertion that endpoint assessment fixation is neither acceptable nor desirable, as it does not provide the right stimulation for the learning process (Stiggins, 2002). The use of very prescriptive criteria can also narrow the students' thinking:

If there are too many criteria for people to keep in mind, they tend to fragment the evaluation task and reduce it to formula.

(Wolf, 1991, p. 10)

A less prescriptive, more open-ended approach appears to encourage stronger individual responses and willingness to explore a wider territory. Our conclusion is that reflective portfolios are not primarily assessments of what students can do at the culmination of the course, but represent a map of the personal and professional growth journey.

A retrograde step

Our beliefs about the portfolio process and associated outcomes were tested when extensive program changes in 2001 forced a move from portfolio presentations of Teaching Experience back to a more prescriptive model related to theoretical coursework, with an emphasis on linking practice and theory. The portfolio was used to assess material covered in the two core papers of the Diploma Course that focus on the pedagogical and practical theories of learning and teaching. Students were asked to demonstrate evidence of a prescribed range of teaching/learning theories and ideas that they had examined in lectures and prescribed readings.

This change to the portfolio shifted the emphasis from a display of reflective skills by the students to that of a display of the ability to match learned theoretical concepts with situations that they have experienced. In effect this shifted the outcomes, and the implied value placed on them, from reflective skills to synthesis and analysis skills. To compensate for

this, the requirements for keeping a reflective journal became part of the Teaching Experience paper for 2002.

As a result of this quite dramatic change, the resultant portfolios in 2002 were completely different from what we had experienced in the three previous years. Students in 2002 had tried to address all the teaching/learning elements outlined in the task brief, and many made really strong links between the theory and practice. Generally, the portfolios were wordier and more academic in approach. High levels of documentation, evaluation, and analysis were apparent, but reflection, as we had come to recognize it, was far less apparent. The requirement to apply theories and exemplars to the students' own situations and experiences does not equate with reflection, although it is often touted as such (Smith, 2002). We sensed a danger that we could be producing technocrats, rather than teachers, by not allowing a platform for the more human dimension of teacher development to be captured.

The 2002 portfolios lacked individuality, and the sense of unique creative spirit had all but disappeared. Students were clearly engaged in the learning and keen to meet the task requirements, but they failed to capture their reflections and journeys. While we recognized the value of this new task, we realized that in trying to ensure that students could demonstrate clear links between theory and practice, we had turned the portfolios into static documentations, rather than dynamic narratives of personal and professional journeys.

The new reflective portfolio

At the beginning of 2003 the decision was made to return to the reflective portfolio attached to the Teaching Experience papers, keeping the task brief, simple, and focused, while encouraging individual expression and reflection. The only major difference for 2003 is that the Learning Outcomes for each portfolio are assigned, rather than selected by the students. The reason for this change was that previously it was possible to avoid meeting some of the Learning Outcomes. This new approach ensured all Learning Outcomes would be addressed in some way.

Our experience also indicates that the way in which the portfolio assignment is introduced contributes to how students respond to the task, and also to the quality of their portfolios. Furthermore, a high level of trust and support between student and tutor is necessary to produce quality portfolios.

We recognize that the reflective portfolio of an emerging teacher cannot stand alone and be just about self-growth, but must be linked closely to all other aspects and elements of the teacher education program. We strongly believe, however, that the greatest assets a teacher can take into the classroom are a belief in positive self-efficacy and a high level of self-actualization. Pedagogical knowledge is extremely important to quality teaching, but without personal and professional self-confidence and self-knowledge it cannot be effective.

Quality teachers should always be learning and reflecting on their learning. We believe that many student teachers in this program have begun to sow the seeds of that process in their reflective portfolios.

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Picturing the Concepts: An Interactive Teaching Strategy

Image: "A manifestation and ideal form of an object or phenomenon of the material world as reflected in human consciousness. At the sensual level of cognition, an image is expressed through sensations, perceptions, intuitive ideas; at the level of reflection, images appear as concepts, judgments, and conclusions. The material embodiment of an image is manifested through practical actions, language and various semiotic models."

—Big Encyclopedic Dictionary, 1991

In this article we introduce an interactive strategy to be used at the phase of *reflection*, the third phase of a three-phase lesson-planning framework (offered in this case by Steele, Meredith, & Temple, 1997–1999). We contend that a good reflection activity must allow for what we call *system generalization* of a lesson's theme. Reflection activities should include not only verbal, logical reflection, but also graphic representations that embody both logical and visual thinking because the two hemispheres of the human brain function differently. The left hemisphere dominates in logical, consecutive, analytical, and convergent thinking, which is primarily aimed at an end result. This thinking is characterized by an unambiguous, step-by-step route and a concrete vocabulary, geared toward achieving clearly identifiable results. In contrast, right-hemisphere thinking is figurative, abstract, divergent, emotional, spontaneous, intuitive, and analogical, focusing more on the process than on the end result.

Currently, in our part of the world at least, instruction is generally dominated

by the cognitive, analytical approach. However, we argue here that it is only by employing both kinds of thinking that we will create a truly harmonious and meaningful educational experience. Figurative thinking, or thinking through images, offers fresh perspectives and ensures variation in the teaching/learning process, while logic protects the process from potential randomness and haphazardness and promotes critical analysis. Therefore we believe that at the reflective stage of the lesson, while students are making generalizations, it is important to use interactive methods and strategies that use both logical and figurative thinking.

Many interactive strategies have been developed that allow teachers to activate and take advantage of the enormous educational potential of their students. These strategies include work in small groups and other methods that invite meaningful discussion and healthy competition. A synergy develops in classrooms where these methods are used, since the intellectual strength of the group is always greater than the sum of its parts. A variety of activities can be used to promote reflection—*inquiry*, summary poems, free writes, 10-minute essays, argumentative essays, interviews, text-coding strategies, clustering, and concept mapping. Some of these strategies are primarily verbal and logical, while others are more visual and graphic. Whereas a number of strategies appear to combine both approaches, a careful analysis is needed to examine the real power of any given strategy.

The *cinquain*, for instance, appears to have both a verbal and a visual component. In fact, many elementary school

students and teachers refer to it as a “diamond” poem. But a more careful review of this strategy suggests this is not exactly the case. So how does the cinquain work as a reflection strategy? Students are instructed to write a five-line unrhymed poem in which the information about a concept (phenomenon, event, topic) is generalized, compressed, and characterized in a variety of ways and from various perspectives. Cinquain basics are reviewed below (see also Vikentyeva, 2002):

1. In the first line the theme is referred to with one word (usually a noun).
2. Using two adjectives, the second line presents a description of the theme.
3. The third line contains three verbs or verb forms (i.e., actions pertaining to the theme).
4. The fourth line consists of a four-word phrase describing the author’s attitudes or feelings about the theme.
5. The fifth line is again one word, this time a synonym that summarizes the very essence of the theme in question.

The example of a cinquain below was created for the concept of *reflection*. On the left you see the cinquain model where each rectangle designates one word (Figure 1).

Note that the cinquain graphic, while striking and memorable, is in fact just a formal structure, and that this structure is not related in any essential way to the image or the concept being considered by its author.

Analyzing the poem presented above we realize that the cinquain is intended in this case to *generalize the meaning and the content of a particular concept*; that is its main mission. However, while it is possible to imagine a lesson devoted entirely to a single concept, this is not

generally the case. Most lessons include several key notions, and it would be too time-consuming (and perhaps counter-productive) to compose cinquains for each of them. And there is an even greater problem: Even if several cinquains were written in one lesson, they would exist as autonomous pieces and would not reveal the connections between and among the key words. Because lessons are ideally structured to reveal connections between concepts, this scattered approach, which encourages isolated concept development and unsystematic reflection, is problematic. Listing key words or writing cinquains can give students only a limited idea of a system as a whole, because a system consists not only of its elements but also of the interrelations among them.

An analysis of other interactive strategies designed to promote critical thinking reveals that there are a few among them—for example, some graphic organizers—that address the idea of a comprehensive, system-wide representation of a lesson’s themes. But like the cinquain, they are most often used for elaborating connections among discreet fragments of a topic, rather than presenting an integrated, holistic image of the theme. Yet one of the principle characteristics of a system is its integrity. Precisely for this reason we set out to develop an interactive strategy for reflection that would allow for a system-sensitive approach, taking in the entire theme of the lesson and making use of both logical (linguistic) and figurative (visual) representation.

Thinking in images is an essential component of every human activity, however advanced and abstract. In the actual process of thinking one can trace both an “image logic” and a “language-based logic,” operating in tandem and integral to the thinking process. Thus, concepts and images are two sides of the

Figure 1

1		REFLECTION
2		deep, synthesizing
3		rearranging, reconstructing, reconceptualizing
4		examining our own understanding
5		meta-thinking

same thinking “coin.” Images, being closer reflections of reality, do not restrict our comprehension to separate, isolated facets of that reality, but represent instead a full mental picture of a given slice of reality.

With this in mind, we have developed an approach to reflection that involves creating a graphic representation of key language-based concepts and the relationships among these concepts. Such a graphic image can serve to facilitate the creation of a mental image of the concepts in question.

Let us imagine that the topic of our lesson is the topic of this article. We can create a visual representation of this lesson and explore ways in which it might be used. We start with a list of key words in the order in which they appear in the text:

- the goal (what we expect that the reader will learn from reading this article)
- introductory generalizations
- logical (or left hemisphere) thinking
- visual (or right hemisphere) thinking
- list of key words
- connections
- diagram

We shall now develop a diagram using these key words (Figure 2).

This diagram is only one of many possible variants of a graphic image representing this article.

How can we use such graphic concept images in the teaching-learning process?

Suggested Teaching Strategies

Step 1. Toward the end of the class period, divide the class into small groups (4–5 students).

Step 2. Ask the groups to put together a list of key words (basic concepts) relating to the theme of the lesson.

Step 3. As a class, discuss the lists of key words created by the small groups and develop a combined list.

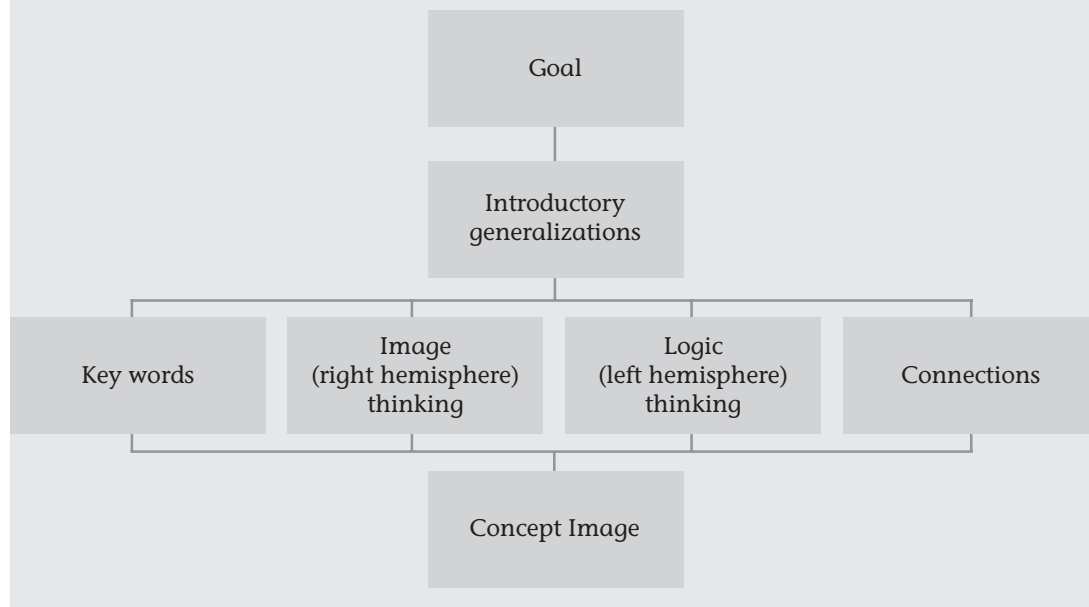
Step 4. Ask each of the small groups to develop a diagram of the lesson concepts. This graphic could either use a linear arrangement or a serial-parallel design connecting various operations, events, and units. The diagram should make use of symbols or words + symbols.
Note: If time is limited, the diagram can be assigned as homework and discussed at the next lesson.

Step 5. Discuss the various diagrams presented by the small groups.

In creating such a diagram, students will have to transform a language-based representation of information into a graphic one, and thus tie together their

Figure 2

A diagram representing this article, “Picturing the Concepts”

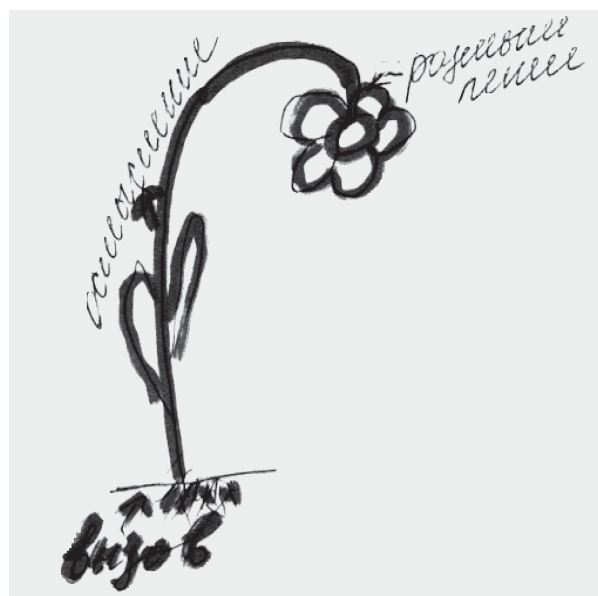


various understandings of the class content. Developing such images will also promote generalization and deeper mastery of the course material.

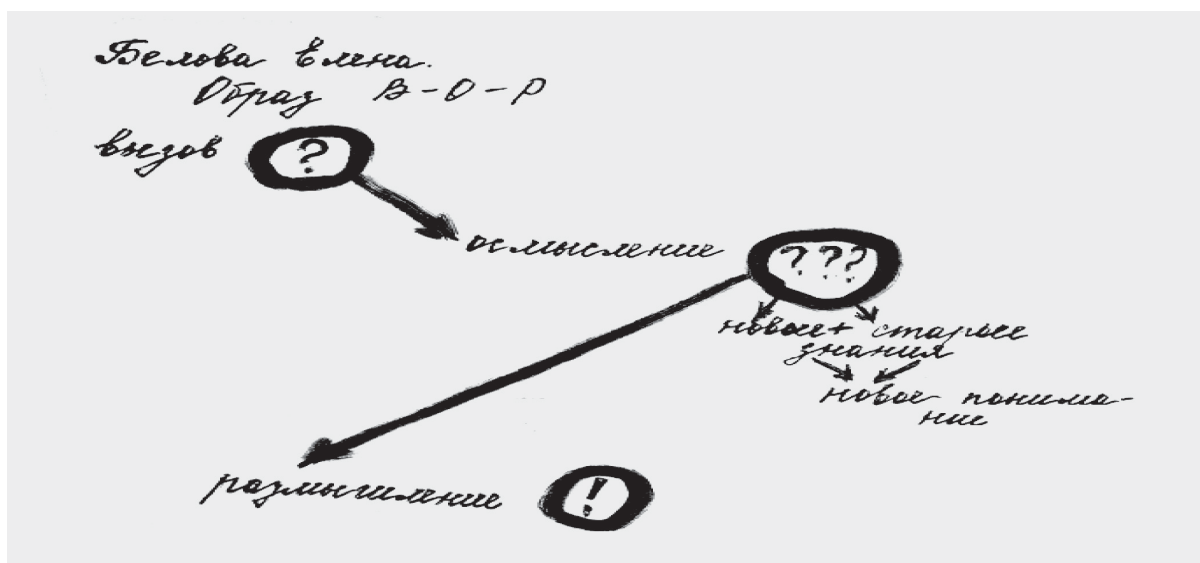
Concept images have been tested by Ruzania G. Musina in her university course on Pedagogical Approaches for third-year students at Tashkent State Pedagogical University. Summarizing their work on the topic "Using Three-Phase Lesson Plans to Facilitate Critical Thinking," her students compiled the following list of key words:

- evocation
- realization of meaning
- reflection

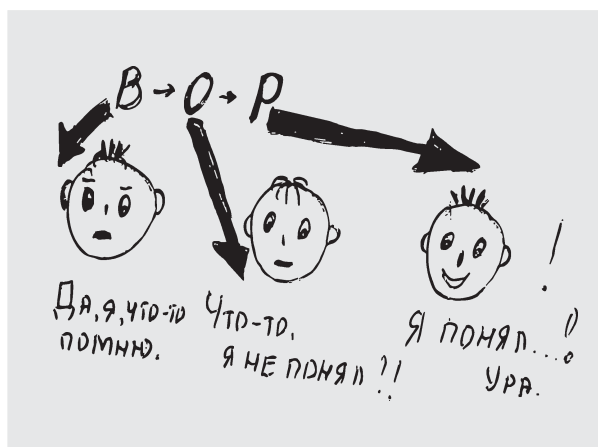
The students were then asked to develop their own images of the theme on the basis of these key concepts. Despite their apparent simplicity, the images produced by all 12 students demonstrate considerable depth of understanding of these concepts. As the examples below demonstrate, the students created truly artistic images, not merely schematic diagrams.

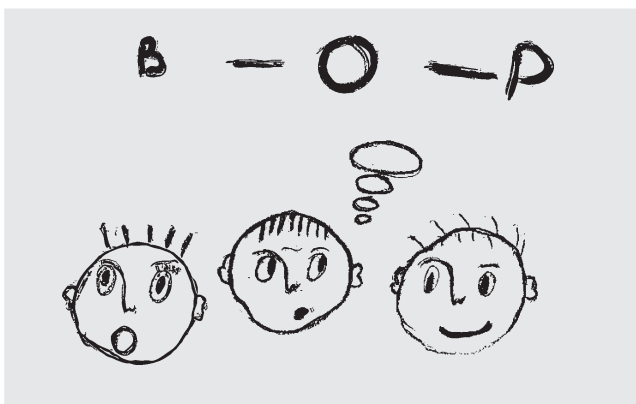


1. Tatiana Tyo [above] presented a graphic comparison of the three-phase model with the dynamics of a flower's development, which we find very expressive. (root—evocation; stem—realization of meaning; branches—reflection)

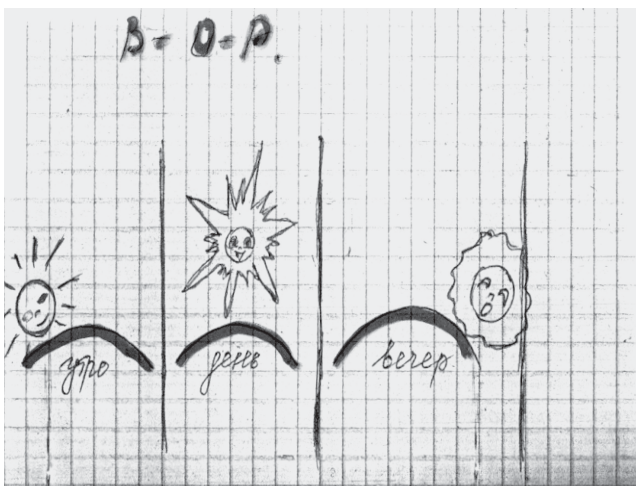


2. The image by Yelena Belova [above] has its own dynamic.
(from top downwards: evocation ? — realization of meaning ??? (new and old knowledge—new understanding) — reflection !)
3. Alyona Semenova's [right] drawing needs no explanation
(Yes, I remember something. —evocation; Oh, I don't understand?! —realization of meaning; Wow, now I understand! Hurray. — reflection)

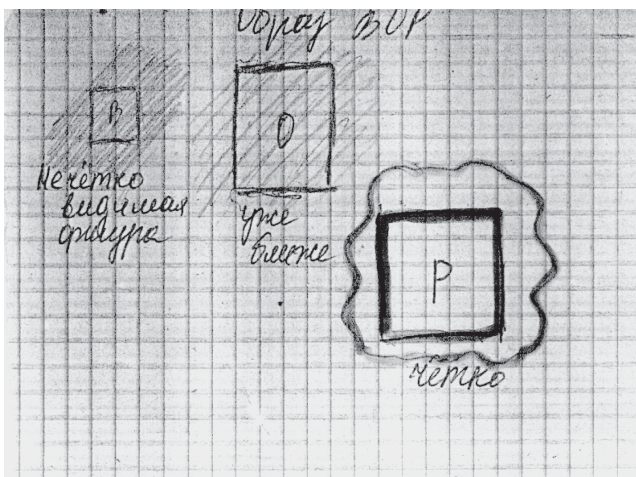




4. Ulyana Kogai succeeded in presenting a concept image without words.



5. Yekaterina Kim
morning—evocation
daytime—realization of meaning
evening—reflection



6. Svetlana Suslova
the dimly perceived figure—evocation
the somewhat clearer one—realization of meaning
the most distinct one—reflection

The other six images, which are not presented here, are also original and all different from one another. The students' drawings testify to their deep mastery of the theme and provide a context for discussion of their unique philosophical insights. This session made a deep impression on the students, particularly because of the spirit of collaboration and the positive emotional environment that characterized the activities. And we feel we must also note our own subjective impressions, our deep satisfaction in having established effective communication and a comfortable psychological learning environment.

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Graphic Novels: Multiple Cultures and Multiple Literacies

With the growing influence of television, movies, and the computer in today's "global village," schools need to prepare students for a world that requires more than traditional mastery of the printed word. Semali (2000) declares, "Time has arrived to broaden the canons of traditional education and the curriculum to include the expanding technologies of television, film, video, and computers. Using critical pedagogy to integrate the new forms of visual and electronic 'texts' represents a curriculum requiring new competencies and a new definition of what constitutes learning as well as how and when it takes place" (p. 7). New literacies, built on critical thinking, include information, visual, and media literacy. Life today in a connected but troubled world also requires knowledge of diverse peoples and cultures. An excellent resource for teaching both multiple literacies and multiple cultures is the graphic novel, the long comic book format growing in popularity worldwide. Following a brief description of the graphic novel and a broad rationale for its inclusion in schools, this article explores how the graphic novel can promote multiculturalism and multiple literacies in the curriculum.

Graphic novels appeal to diverse readers; they are relatively short, different in shape and size from the usual school texts, often colorful, and include all types of stories, from superhero tales and crime novels to autobiography, social satire, history, and how-to. Graphic novels are widely read around the world. The Japanese read *manga*, both fiction and nonfiction, in great numbers. According to Lent (2003),

graphic novels have been produced for educational purposes in the Philippines, India, Singapore, Malaysia, and Mexico; they have been used in bilingual courses, as well. Europeans, both children and adults, read graphic novels in growing numbers. Americans, too, are beginning to see the graphic novel as more than a trivial children's comic book, as shown by the Pulitzer Prize awarded to *Maus* (1986), Art Spiegelman's account of the Holocaust.

Although some Americans still view the graphic novel as "popular trash," a growing number of journalists and academics respect the genre. For example, Grossman (2003) declares, "[S]ome of the most interesting, most daring, most heartbreaking art being created right now, of both the verbal and visual varieties, is being published in graphic novels" (p. 56). According to Bernstein (1994), the "format allows the artist to combine the emotional subtlety of a facial expression, for instance, with the dramatic power of dialogue. It also dovetails neatly with the visual sensibilities of an audience raised on small pictures flickering on a TV screen" (p. 56). Graphic novels are gaining respect from writers such as La Brecque (1993), who asserts that the "new cartoonists are creating works that chronicle their own experiences and explore the great themes of existence" (p. 21). In the United States, library-media specialists have become especially supportive of the graphic novel for young adults. Mooney (2002), for example, promotes graphic novels in the curriculum for "teaching dialogue and sequencing. The illustrations are just as important as the words, so students can

strengthen inference skills. Many have powerful vocabulary and sentence structure, which teachers could use to study double meanings, unusual or uncommon words, and literary allusion" (p. 19). She adds that graphic novels can improve critical thinking. Offering engaging stories and valuable information, graphic novels should also be studied for how they communicate.

Some graphic novels present an accessible and engaging way for young people to learn about other countries and other cultures. Tyner (1998) notes, "In particular, texts that originate in popular culture and mass media can provide points of commonality for cross-cultural readings by students who engage with classroom information resources from a diverse range of cultural perspectives" (p. 166). Graphic novels, in their original language or in translation, offer authentic artifacts of places, using slang and common cultural references. Showing the regional homes, businesses, and fashions, they call on the special histories of nations and areas and express concerns from within diverse societies. For example, a contemporary work representing Japan is *Bringing Home the Sushi*, edited by Laura Silverman (1995). This collection of nine short essays is accompanied by examples of manga (with the Japanese written below), which examine the culture of Japanese business. Topics include trade issues, the role of women in business, and the effects of business expectations on family life. These pieces offer insights from within Japanese culture, and the black and white stories, in a variety of styles, are amusing as well.

Breakthrough, edited by R. Christin and A.C. Knigge (1990), is a remarkable graphic novel that brings together 27 artists from all over Europe to reflect on the fall of the Berlin Wall. Contributors include Moebius from France; Neil Gaiman from England; Enki Bilal, who was born in Belgrade and now lives in France; Marciej Parowski from Poland; Matthias Schultheiss from Germany; Milo Manara from Italy; and Ilona Kiss from Hungary. The various colorful pieces express differing views, from Europe's celebration of the fall of the wall to the commercial invasion of the former East Germany by fast foods. The fall of

the Berlin Wall was not the simple victory portrayed by American media—the world is more complicated, and these diverse voices express that complexity.

Moreover, many graphic novels originally written in European or Asian languages have now been translated into English. These include *Persepolis*, by Marjane Satrapi, a memoir of a girl growing up in Iran, first published in French in Paris in two volumes in 2000 and 2001; *Miss Remarkable and Her Career*, an account of a woman's frustration in trying to achieve everything, by Joanna Rubin Dranger, winner of the Swedish Illustrators' Award for Best Graphic Novel in 2000; and *Epileptic 1* by David B., the story of an epileptic boy's impact on his family, originally published in Paris in three volumes from 1996–1998. Other internationally known graphic artists include Hermann (who signs with only his first name), Vittorio Giardino, and of course, Hergé, author of the widely translated *Tintin* adventure series.

Through graphic novels students can gain access to multiple voices and alternative points of view. Critical thinking implies questioning the status quo and challenging conventional wisdom; to think critically students need to inquire into multiple points of view and to debate issues. The variety of graphic novels available today offers students access to points of view not present in traditional textbooks. Witek (1992) promotes the use of graphic novels in studying the humanities. He outlines recent changes in the American context:

For decades, comics publishing was dominated by a handful of comic-book publishers and newspaper syndicates, but today scores of artists and writers are producing comics independently in a wide variety of physical formats and distributional outlets. With the rise of the self-published and cheaply reproduced comics pamphlets called "minicomix," the visions and voices of women, the working class, and gays and lesbians, among other groups, are being seen and heard as they have never been before.... Americans have begun to see what Europeans and the Japanese have long accepted, that comics employ a medium of potentially unlimited range and sophistication. (pp. 72–73)

McCloud (1993) adds, "Today, comics is one of the very few forms of mass communication in which individual

voices still have a chance to be heard" (p. 197). Graphic novels can bring out points of view that are **not** mainstream.

A good example is *The Four Immigrants Manga* by Henry Kiyama (1999), which follows the lives of four Japanese immigrants in San Francisco from 1904 to 1924. Based on the author's own life, these tales are both funny and poignant, as the immigrants confront not only cultural and language difficulties, and historical events like the Great Earthquake of 1906 and World War I, but also unrelenting prejudice and discrimination. It is an eye-opener to see immigrant life from an inside point of view, one too few people in majority cultures ever experience.

Other graphic novels that offer alternative points of view include Joe Sacco's *Palestine* (2001), which explores the complex issues of life in the Palestinian territories, and *Still I Rise: A Cartoon History of African Americans* by Roland O. Laird, Jr., with Taneshia Nash Laird (1997), which documents the resiliency of black Americans over centuries in a racist America, and includes history not told in the usual school materials. Graphic novels offer information and points of view not common in textbooks or most mass media, stimulating students' critical thinking.

In the "global village," not only do students need access to diverse content, but they also need diverse literacies. Print or alphabetic literacy, while essential, is no longer sufficient for living in a media-dominated world. Graphic novels can offer young people, especially secondary students, a learner-centered way into critical new literacies. Young people need to be able to find and evaluate information in new formats (including hypermedia); to understand how visuals affect them; to question a variety of media messages, from pop-up advertisements to video games; to explore the creation of mass media around the globe; and to be conscious of the tremendous impact of communications technologies on our world. As Tyner (1998) expresses it, "And since there are many literacies—in the broadest sense, oral, print, and electronic modes—there are several continuums of literacy that should count" (p. 38).

Scholars speak of many literacies, but Tyner (1998) declares that "information, visual, and media are particularly relevant to the uses of technologies within the context of schooling. They stress the need to analyze information and to understand how meaning is created" (p. 92). Not only are these literacies necessary, given the influence of the Internet, photography, film, and TV, but they can also build on the diverse strengths and interests of students, some of whom may struggle with traditional print literacy or find it un motivating because they are attuned to newer media. Multiple literacies may well connect to diverse learning styles and even to the notion of multiple intelligences popularized by Howard Gardner and others. I will illustrate the teaching of multiple critical literacies with *Watchmen* (1987), the popular graphic novel, by Alan Moore and Dave Gibbons.

Watchmen combines the old idea of superheroes like Spiderman or Batman with more complex themes of contemporary societies, from the pervasiveness of surveillance to the role of the police and utopian thinking. The plot is complex, but Weiner, in *The 101 Best Graphic Novels* (2001), sums up as follows:

Moore and Gibbons offer what many consider to be the ultimate superhero story in the form of a meditation on time and the burdens of power. In a fantasy world, Richard Nixon never resigned after Watergate, but all the superheroes were outlawed. Those with normal (acrobatic, scientific) abilities went into hiding; Dr. Manhattan, a man atomically empowered by an explosion, was exempted, as he worked for the government. The disappearance of Dr. Manhattan brings the lesser heroes/vigilantes out of hiding, and humanity must face the result. (p.45)

Told from multiple points of view, the narrative begins with the murder of one of the retired superheroes. Another superhero-in-hiding, a vigilante named Rohrschach, begins to investigate, calling on his colleagues. This basic detective story is complicated by Dr. Manhattan, a blue, almost omnipotent man, who refuses to involve himself in a looming thermonuclear war; and, in a less threatening vein, by the romantic entanglements of various superheroes. The visual style is fairly typical for



"Watchmen" © 1986 DC Comics. All Rights Reserved. Used with Permission.

Editor's note:

Russian-language websites concerning comics and graphic novels include:

<http://www.animag.ru/>

<http://comics.aha.ru>

www.comics.ru

www.mangaproject.ru

www.kommissia.ru

superhero comics, with lots of color and action. What is unusual are the flashbacks, the changing point of view, and the "found documents" (correspondence, newspaper articles, etc.) interspersed in the narrative. Winner of the Hugo Award for science fiction, *Watchmen* has been much praised and discussed. It has received praise from *Time* and *Newsweek*, and several academic websites have even taken an interest [e.g., <http://theory.lcs.mit.edu/~wald/watchmen-index.html>]. The novel lends itself well to the exploration of multiple literacies. (See example at left of p. 11 from *Watchmen*.)

Watchmen is a good example of a graphic novel that could be used to teach information literacy, from the acquisition of the novel to the assignment of school projects. *Information literacy* is described by Tyner (1998) as the "ability to find, evaluate, and use information effectively in personal and professional lives (American Library Association, 1991, p. 152)" (p. 94). Given the current information glut brought about by computer technology, in particular, students need skills and knowledge to make decisions about information. Students might first be asked to use the Internet to research the availability of *Watchmen* from publishers, independent stores, and libraries. In the process, students can compare and contrast websites, especially commercial sites vs. educational sites: Which websites are attractive and why? What is the purpose of each website? How is the website arranged? What kinds of links are offered? How do we know if a website is a reliable source of information? For instance, it is enlightening to compare the website of a publisher like Antarctic Press (in Texas) (<http://antarctic-press.com/>) with a website created by librarian Steve Raiteri, which gives links to other library sites as well as publishers and creators of graphic novels (<http://my.voyager.net/~sraiteri/graphicnovels.htm>). Students need to ask questions about the reliability of websites and their trustworthiness over time (since so many come and go); about the purposes of different websites; and about the arrangement and usefulness of websites.

Second-language learners can investigate the availability of graphic novels in their first languages, too. Students can also do some comparison shopping online.

When students have *Watchmen* in hand and are reading it, discussing it, and working on projects about it, they can begin to explore various Internet search engines and databases, comparing the kinds of information available. What is the best source for professional reviews of *Watchmen*? (Students can access and share reviews, and find online graphic novels, at such sites as *No Flying, No Tights* (<http://www.noflyingnotights.com/>) and *Grovel.org.uk* (<http://grovel.org.uk/>). For forums about the novel? For information about authors (many of whom have their own websites)? For pictures? What information is available in multiple languages? What journal articles and book chapters are available and where? Information is not confined to the Internet, of course. A trip to the local library can also be part of this exploration.

As technology plays an ever-increasing role in delivering information, students need information literacy more than ever. They need to learn to deal with spam, to evaluate sources, and to find information efficiently. Most important, they need to learn that information is not knowledge or understanding. Shenk (1997) captures the importance of information literacy when he says, "Education, as we have discussed, is anti-glut. It is the harnessing of information, organizing it into knowledge and memory. Education also breeds a healthy skepticism, and will help consumers fend off manipulative marketing tactics" (p. 203). The graphic novel is an excellent vehicle for thoughtful information literacy tasks, as the *Watchmen* ideas here show.

In addition to improving information literacy, graphic novels can lead students to further research and study of a number of related topics: the history of bookmaking; the historical relationship of graphic representation and text (as in Chinese writing); the roles of superheroes in narratives; biographies of authors of graphic novels, such as Enki Bilal or Art Spiegelman; the economics of graphic

novel publishing; techniques of creating graphic novels (how to draw); and much more. Graphic novels can be used in teaching art, social studies, literature, and other subjects. Teachers can encourage and build upon the diverse academic interests sparked by graphic novels across the curriculum.

Given the dominance of images in the media today, students also need to develop *visual literacy*. Tyner (1998) defines visual literacy as "the ability to comprehend and create images in a variety of media in order to communicate effectively...visual literacy contains the competencies of reading and writing" (p. 95). Will Eisner (1985), one of America's leading graphic novelists and the "father" of the genre in America, summarizes this new literacy required of readers as follows:

The format of the comic book presents a montage of both word and image, and the reader is thus required to exercise both visual and verbal interpretive skills. The regimens of art (e.g., perspective, symmetry, brush stroke) and the regimens of literature (e.g., grammar, plot, syntax) become superimposed upon each other. The reading...is an act of both aesthetic perception and intellectual pursuit. (p. 8)

Varnum and Gibbons (2001) add, "There is a synergy between words and pictures in comics such that the combined effect is greater than or different from what might have been predicted" (p. xiv).

Eisner further examines some of the special techniques of the graphic novel in his *Graphic Storytelling and Visual Narrative* (1996), techniques such as stereotypical images, symbols, and sequence. To analyze and evaluate graphic novels, students will need to learn about frames, angles, and shading, as well as about literary devices such as foreshadowing and flashbacks. As McCloud (1993) says, "graphic sequential art" offers "range and versatility with all the potential imagery of film and painting plus the intimacy of the written word" (p. 212).

To understand the visual imagery in *Watchmen*, for instance, students will have to pursue questions of color, line, and space. Why are the colors so bright until the last chapter, which turns to more muted color and pastels? How is darkness used? Another important visual

question is why the creators use a fairly realistic style for a science fiction story. And, given the word-image combination, what are the effects of the interspersed “found documents,” which include parts of an autobiography, police reports, and newspaper articles? Thompson (2001) notes that “much of the comic’s poetry lies in the counterpoint and convergence of its parallel narratives and visual motifs” (p. 2).

Graphic novels are a rich resource for achieving the skills and understandings basic to visual literacy. Harvey (1996) describes the complexity of the best graphic novels, in which

the chief elements of the medium are artfully deployed, the import of each element supporting that of the others to create an impression that no single element by itself could create. The text details such nonvisual matters as emotions, confirming with verbal precision the hints supplied by the visuals. The pictures focus our attention and stress certain aspects of the story raised in the text. The visuals also pace the action, manipulating time and our perception of events for dramatic emphasis. And speech balloons give us the illusion that we are seeing living, breathing—and speaking—people. (p. 113)

Greater understanding of this visual-verbal art gives students more power over their readings. Even the type of lettering in the speech balloons constitutes a visual element that affects the reader. *Watchmen*, for example, makes liberal use of bold-face lettering. As students explore these elements, many who struggle with print-only texts may find that they have special gifts in interpreting visual media. Today’s students should bring critical thinking to visual as well as print literacy, to explore how words and images work together in new ways to communicate human ideas, feelings, and experiences.

Finally, the graphic novel can contribute to *media literacy*, which overlaps with both information and visual literacy. Tyner (1998) describes media literacy as being “concerned with helping students develop an informed and critical understanding of the nature of the mass media, the techniques used by them, and the impact of these techniques” (p. 94). Media literacy is usually defined as the ability to access, analyze, evaluate, and

create media for a variety of purposes. Media literacy asks such questions as, Who is producing these media and for what purpose? How do the media create their versions of reality? and What messages, beliefs, and attitudes are conveyed by the media, and through what techniques?

Although *Watchmen* is science fiction, it does comment on real society, world problems, human psychology, and the workings of the media themselves. The book closes with a classic quote from Juvenal, “Who watches the watchmen?” that invites us to consider the costs of maintaining law and order in society.

Media literacy issues include who is represented and who is not, whose point of view is heard or not heard, what special techniques each medium uses, and how a given medium relates to other media. Students may wonder, for example, why all the superheroes in *Watchmen* are white. Other topics to explore include the violence in the story, or the ways male and female characters are portrayed. Significant social issues emerge in *Watchmen*, from the role of newspapers in society, to the meaning of political responsibility for individual citizens.

A graphic novel such as *Watchmen* also allows students to explore the medium itself, which Harvey (1996) declares is “not merely an illustrated story” but a unique form (p. 114). For example, the chapter “The Abyss Gazes Also” is deeply disturbing, as the history and psychology of the violent character Rorschach are revealed in just a few pages. As Harvey (1996) remarks, “One of the storytelling advantages inherent in the graphic novel’s use of text is that complex ideas and emotions can be communicated economically” (p. 109). The question then becomes how the pictures work along with the text to produce a unique experience for a reader; this is a question that will encourage rich discussion among students. Some students will even want to try out the medium themselves, thereby offering diverse students another means to share their knowledge and creativity.

Students may also wish to ponder how the book might be translated into film, and to compare and contrast the media of graphic novels and movies. In the U.S. today there is a trend to turn graphic novels and comic books into movies, from

Superman and *Spiderman* to Harvey Pekar's *American Splendor* series. What are the advantages and disadvantages of each medium: traditional books, movies, and graphic novels? Another issue for consideration is the value of popular culture—how do we differentiate between popular junk and real art or literature today? Why has the graphic novel gained respect, when its predecessor, the comic book, did not? Such concerns should be part of a young person's education today if school is to have any connection to daily life. Media literacy, visual literacy, and information literacy are all important, and the graphic novel can provide an engaging means for young people to develop such multiple literacies.

While graphic novels have great potential for classroom use, pitfalls also exist. Teachers will need to exercise extra effort to identify and obtain appropriate graphic novels. They are not typical school texts and do not appear on state-adopted textbook lists in the United States. Many graphic novels are poorly produced, inane, or even pornographic—not all titles are worthy of school study. Many traditional educators and members of the public still disdain the study of popular culture in any form. In addition, school administrators and parents may object to graphic novels on the basis of language, sexual content, and violence, so censorship can be a problem. Teachers who value student-oriented approaches and critical thinking will have to pioneer the use of graphic novels, finding funding and winning approval for their materials. Also, little research exists as to the effects of graphic novels in the curriculum, so much remains to be done to assess the academic value of this kind of text across the curriculum.

Nevertheless, the graphic novel is a worthy resource for educators. Graphic novels are “real books” despite popular opinion. Young adult librarian Francisca Goldsmith (1998) argues as follows:

In fact, the graphics medium expands intellectual and aesthetic possibilities rather than contracting them. A literary piece that calls on its reader to use both analyzing and synthesizing skills is asking more involvement, not less. Graphic novels require active, critical participation by the reader, who must not only be able to decode text but also follow its flow and

grasp essentials of narrative, mood, character, or plot through images. The reader must then be able to meld the parts into a unified whole. (p. 1511)

In addition, Goldsmith notes, “The format has appeal across ages and genders and easily lends itself to a wide variety of genres: fantasy, scientific inquiry, history, romance, self-help, and education” (p. 1510). Academic interest in the graphic novel is growing at the university level, as shown by a conference on the Twentieth Anniversary of the Graphic Novel held at the University of Massachusetts November 13–15, 1998, and an international and interdisciplinary conference on graphic novels hosted by the Institute for Cultural Studies (University of Leuven) on May 12–13, 2000. In addition, a few teachers are beginning to testify to the curricular value of graphic novels. Versaci (2001) contends that they stimulate students to challenge the “literary canon” and “diversify the voices that our students experience in the classroom” (p. 66). Moreover, Weiner (2003) adds that “graphic novels have found their way into classrooms, as teachers are realizing their usefulness as literacy tools. After a study of graphic novels, researchers concluded that the average graphic novel introduced readers to twice as many words as the average children's book. This realization has reinforced the idea that the comics format is a good way to impart information” (p. 61). Multiple literacies can also help build traditional print literacy. One can even find lesson plans for using the comic format online (see for example <http://www.night-flight.com/secretoorigin/index.html> and www.teachingcomics.org).

In conclusion, because they offer a means for students to hear diverse voices and points of view, to become familiar with other countries and cultures, and to develop multiple literacies, graphic novels deserve a place in the school curriculum. These popular culture texts appeal to students with their immediacy and creativity, and their varied topics fit into the study of history, economics, politics, literature, sociology, and even science. Graphic novels allow teachers to connect the classroom and out-of-school lives of adolescents, and to connect school literacy and real-world literacies.

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Literacy Without Boundaries

IRA's International Development in Europe Committee and the Croatian Reading Association (Hrvatsko citateljsko drustvo) call for program proposals for the **14th European Conference on Reading** in Zagreb, Croatia, to be held 31 July–3 August 2005. Proposals may be submitted in the following categories: papers, posters, workshops, roundtables, and symposiums. The working language of the conference will be English. Presentations may be made in any European language; abstracts should be submitted both in the language of the presentation and in English. (Translation will not be provided by organizers.) The deadline for submission of abstracts is November 30, 2004.

Further information is available at <http://www.hcd.hr/conference/>.

Get Them Playing!

The importance of games

What do you think of when you hear the word *game*? Amusement? Fun? Lightheartedness? Frivolity? The common belief that people only play in their childhood, and have to give up games when they grow up, makes us underestimate the significance of games and play in our lives. In fact, games are one of the basic tools of education, and they not only assist in the formation of a child's personality but also promote the acquisition of knowledge at any age. Though their goals may be different, teenagers and even adults need fun and enjoyment as much as little children do. For kids, play is a natural way of maturing and gaining experience. At an older age, games are thought of as a form of entertainment and a pastime.

Language games are always a welcome classroom activity, and the special excitement they create makes everyone want to join in. Learners want to participate because playing is fun and natural, establishing a cooperative and friendly environment for the pursuit of a challenging but interesting goal. The focus is shifted from learning to playing, thus encouraging relaxation, building self-confidence, and facilitating memory functions.

I have used various games during my teaching practice for over 10 years now. I always have a number of them prepared for class. When choosing appropriate games, I try to relate them not only to the topic in the textbook, but also to my students' interests and experience. My major target group is university students in Armenia, ages 16 through 20, who are learning English as a foreign language.

I have also used games with English-language learners at Spring International Language Center in Denver, Colorado, USA, where I co-taught the module course Travel USA to students from Asia and Latin America. The results have been amazing. As a rule, the least motivated learners become the most active participants in games.

Games must not be viewed as merely marginal activities or time-killers. Their educational value and motivational power make them central to language instruction (Gasser & Waldman, 1979; Lee, 1997; Wright, Betteridge, & Buckby, n.d.). They provide an enjoyable change of pace, and hence make for emotional engagement in learning. This is important in the language acquisition process, as language is a constant presence in our lives. Verbal expressions "will be more vividly experienced and, therefore, better remembered" (Wright, Betteridge, & Buckby, n.d., p. 1), if learners express their real feelings and emotions on the subject matter. Also, learners are willing to experiment with language in a game situation, because they don't worry about mistakes. Games enable learners "to lose themselves in the activity without concern over grammatical or pronunciation errors" (Dubin & Olshtain, 1977, p. 202). Thus, games lower the affective filter, helping the brain to receive new information, known as comprehensible input (Krashen, 1981). In addition, language games tend to integrate various language skills, challenge critical thinking ability, and actualize and develop numerous life skills, while promoting class cohesion and enhancing interpersonal communication.

What is a language game?

Does the motivational factor imply that any interesting, amusing, and interactive method of language instruction can be referred to as a game? According to Lee (1997), in applied linguistics the border between games and other enjoyable activities is not well defined. I would, however, attribute two distinctive characteristics to all games: *they are desirable activities governed by a set of rules; and they proceed in a special playful mood and atmosphere and do not focus on learning.* In their content, most language games reflect the player's perception of the surrounding world. They consist in imitating some real-life activity, using imagination and creativity. As players are exposed to the target language in different social settings, they negotiate meaning through genuine communication and interaction, where analysis of linguistic forms is not required.

Types of games

There is a great variety of language games. They can be classified according to different principles or approaches, such as strategic, didactic, and functional. The strategic approach divides games into guessing, matching, composition, and discussion/interaction games; role-play/simulation; and puzzles. From a didactic viewpoint, games can be classified as grammar, vocabulary, reading, writing, speaking, listening, or paralinguistic/nonverbal games. From a functional perspective, they are divided into warm-ups, energizers, ice-breakers, brain-teasers, knowledge-reinforcing activities, and competitive games.

Types of games	
Strategic	Guessing, matching, composition, and discussion/interaction games; role-play/simulation; and puzzles
Didactic	Grammar, vocabulary, reading, writing, speaking, listening, and paralinguistic/nonverbal games
Functional	Warm-ups, energizers, ice-breakers, brain-teasers, knowledge-reinforcing activities, and competition games

In their turn, these categories encompass a variety of activities. Guessing games, for example, range from riddles based on humor and puns to tasks that involve describing people and objects. Matching games can be adapted to teaching all kinds of language skills, and played as board, card, bingo, song, or picture games. Crosswords and other word puzzles are an exceptional means for both enriching and reinforcing vocabulary, and they also can create communicative situations that are ideal for individual and group learning: Learners offer and receive ideas from one another, while each member realizes his or her personal responsibility for the group's achievements. Logic puzzles stimulate great interest and enthusiasm. They challenge analytical skills and logic. People of all ages enjoy these puzzles as a leisure activity. They are excellent for developing reading skills, because the solution to the puzzle lies in the information in the text. Logic puzzles can be designed for different age groups and with various levels of difficulty. They are flexible enough to be played individually, in pairs, or in groups.

There are so many good language games that it's sometimes hard to choose. Though I constantly update my collection, I have several favorites that have never failed me and always elicit positive emotions. I would like to share some of them here.

My students are most enthusiastic about guessing games. They get so excited when they manage to guess right. These games are very simple to play; hence they can never be a discouraging experience. One of the most popular guessing games is *Lie Detector*, in which learners also practice grammar (question formation):

One student is asked a set of 8–10 questions. He or she has to answer all but one of them truthfully; in one case he or she must lie. The rest of the students then have to decide which answer was a lie and give reasons to support their opinions.

I usually play this game with first-year students as a means for them to get to know one another. However, it can also be played with students who are already well acquainted with one another's characters and habits. Guessing then

becomes easier, but the questions can be more complicated.

Another favorite guessing/composition game is *People* (see Karapetyan, 2001):

Each student receives a different photograph and can choose either of two tasks: Describe the appearance of the person in the photo; or write an imaginary curriculum vitae for this person. Then the photos are displayed to everybody, the written pieces are read aloud, and the texts must be matched to the photos.

When choosing photos for this game, I usually seek out interesting-looking faces or costumes. My students love commenting on these. While the descriptions are being read, some students even leave their seats to get a closer look at the pictures. They laugh, argue, compare, revise, and suggest additions to the texts.

Riddles can be an excellent tool for teaching language, and for teaching about culture. British humor is often incomprehensible to other nationalities. On the other hand, in American English the essence of jokes and riddles is “playing” with language. Understanding hidden messages expressed by puns and being able to laugh at the jokes is a good sign of language proficiency. Finally, bringing humor and laughter into the classroom is useful in itself.

The activity that I call *Jumbled Lyrics* (Karapetyan, 2002) is a valuable listening game and a favorite among teenagers. I consider it a kind of puzzle game.

The game involves putting the lines of a song in the correct order. The teacher prepares strips of paper with the lyrics and hands them out to students. The lines in each set are jumbled. As the song (or a portion of the song) is played on a tape recorder, students work enthusiastically to restore the original sequence. This game is excellent practice for both listening and reading skills.

In my teaching, though, I have to face the fact that some students don't like music. How am I supposed to play this game with them? In fact, the problem solves itself: When I first introduce the game, I see their indifference turn to excitement, and soon they are completely involved in the activity. Once a whole group even started singing—I was deeply moved by this. If my attempts had been unsuccessful, or if the game hadn't

appealed to my students, I would certainly have given it up by now.

My students are also very intrigued by simulations. For example, *Alibi* catches everyone's attention.

Two students play the role of suspects in a certain crime. They are sent out of the classroom to construct alibis for one another. Each student is then questioned individually by the rest of the group. If their stories vary at any point, their alibis are presumed false.

Both sides, the “detectives” and the “suspects,” become very involved in this game. Imagine the joy of the suspects if their guilt cannot be proved. Even more elated are the detectives if they manage to catch the suspects in a lie. The excitement of the game remains even after class—I have heard participants sharing their impressions with students from other groups; and they often ask me to play the game again. However, I try to vary the selection of games, and I doubt that *Alibi* would be as effective the second time around, even if the crime and the suspects were different.

Simulation/role-play games have proved particularly valuable in my conversation sessions for specific/professional lingo (such as English for business). Unscripted role plays—such as the scene of an auction, a meeting of a board of directors, a business presentation to imaginary potential investors, or a job interview—are very effective in engaging students of economics and business in natural speech. In addition to reinforcing business vocabulary, they further the development of business thinking. Even the profession of translation or teaching has its simulation equivalent. Why not play at being interpreters, for example?

Among discussion/interaction games I recommend *Election* (Karapetyan, 2001). The goal is to choose the right person for an imaginary award or punishment. Students play the role of board members responsible for deciding a merit-based competition: They have to read about each candidate and argue persuasively in favor of this or that candidate. Election games improve reading and comprehension, debate, and critical thinking; they foster speaking skills and the ability to persuade. With sociable students, the playing time can be up to 45 minutes.



Photo: Colin Guard

Some teachers would say this is too long. But isn't it better to have your students involved in a hot dispute in the target language than forced to complete some routine assignment? According to Wlodkowski (1993), letting students relax can restore their concentration. "By investing ten minutes of learning time into a break when it is *needed*, you may receive as much as sixty minutes of quality attention from your learners" (p. 157). I often schedule an entire class period of games as a means of relaxation after finishing a chapter in the main textbook.

Some games introduce learners to the peculiarities of nonverbal communication in the target language, which is a vitally important aspect of language instruction. The game below, which I adopted from Professor Stanley Jones of the University of Colorado at Boulder, is good for distinguishing inflectional changes in the speaker's voice.

The game is played in groups of three to five people. Each member is asked to say certain words or sentences so that they imply different meanings. The others guess which of the meanings is being expressed, e.g.,

1. Say the word "yes" to indicate:
 - a) certainty
 - b) doubt
 - c) indecision
 - d) sarcasm
2. Say the sentence "He's a fine person" to bring out the following meanings:
 - a) You admire the person about whom you are talking.
 - b) You dislike the person.
 - c) You are surprised at the newly discovered qualities of the person.

Concerns

Many games can take the form of a competition. Actually, one meaning of the word *game* is *competition*. In my experience, involving students in this kind of activity can awaken and fuel their enthusiasm. The sporting spirit urges even the least motivated students to participate. In my class I have even organized *brain rings*, team competitions involving multiple activities such as solving puzzles, finishing anecdotes, completing aphorisms, and so on (the name of the competition originated as an analogue of *boxing ring*). Most of the participants had previously been the lazy types, reluctant to prepare for class or contribute to class work. But they were all eager to compete and win in the brain ring. An important concern arises here, however. Doesn't failure affect the losing participants negatively and lower their self-esteem? Psychologically, it is certainly possible. But in my own observations, this has never been an issue for my students. Certainly the members of the losing team are disappointed, but it only inspires them to try harder next time.

That said, any language game can be a discouraging experience for learners if it doesn't correspond to their true abilities. When designing a class involving games, a language teacher has to consider such extra-linguistic factors as the learners' ages, background knowledge (formal and family education), and the level of the target language proficiency. As I stated above, I have targeted a certain age group (teenagers), who nevertheless have a variety of different

educational backgrounds. Some have finished Armenian schools specializing in English-language instruction; some have attended high schools in the United States; and others are immigrants from countries such as India, China, or Iran who have very poor knowledge of both Armenian (the language of instruction) and English (the target language). It's clear that, as individuals, learners with more communicative experience, better schooling, or a broader world outlook will surpass their average classmates. But the situation is different in team games: If the forces are fairly balanced in each team, the game can be encouraging for weaker students, as they will be engaged in a challenging activity but won't have to cope with the challenge by themselves. And, as if to offset their linguistic vulnerability, such students usually contribute the best ideas. Thus, in a cooperative situation like this, all the players have something to give and take.

For instructors who want to start the adventure of teaching languages through games, the following suggestions may help to motivate reluctant students.

Choose games according to the size and average abilities of the class so that everyone is engaged.

Let your students decide if the game appeals to them. It's always possible to replace one game with another that has a similar linguistic objective.

Be enthusiastic yourself and encourage shy students informally. Depending on the type of game, you may choose to participate yourself in order to add to the informal atmosphere. Switch teams every now and then.

Encourage shy or lower proficiency language students with team games. Your students will feel excited about contributing to cooperative teamwork.

Allow your students a few minutes of silent preparation (Lee, 1997).

Encourage class/team/group interaction and collaboration (Lee, 1997).

Include an element of competition. The sporting spirit fuels the participants' enthusiasm, but make sure that your students are not psychologically vulnerable. If they lose the game, help them lose with dignity.

If chosen properly, language games become a powerful source of inspiration for learners. I do not claim that they could completely substitute for traditional teaching techniques, but they do tend to make serious learning more appealing, and also help learners to overcome their fear of communicating. "A language is learnt by using it—and this means using it in situations and communicatively" (Lee, 1997, p. 1), and not only by learning grammar rules. As a voluntary communicative activity modeled on real-life frameworks, language games provide both a physical and psychological playground for students, allowing them to display their initiative, creativity, and talents while speaking, listening, reading, and writing.

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Living Assessment

"Assessment is like a healthy circulatory system—without it stagnation and sickness are inevitable."

—N. Ostrovsky
(Azerbaijani Government Publishing,
1982, p. 134)

Throughout mankind's history, ongoing social processes have required assessment. The greatest progress as a result of assessment has always occurred when both past and present results are taken into consideration; when both positive and negative aspects of a phenomenon are investigated; and when a process is viewed not in isolation but as part of a complex, integrated system. The epigram above, from Ostrovsky, was chosen for good reason: Assessment is as vital to any successful and effective activity as blood circulation is to the function of the other systems of the body.

From the time I began using active learning methods in my classes, I have been troubled by various questions of evaluation and assessment. Observing other teachers (in my capacity as a certifier for the Reading and Writing for Critical Thinking program in Azerbaijan), I have had the feeling that I have not been entirely successful in evaluating these classes. Further, I have felt that the teachers in these classes have not had effective mechanisms for evaluating their students' activities for the purpose of assessing creative and critical thinking skills as applied to a given assignment. All I observed was a lot of oral praise and assorted remarks. A few little assessment techniques or evaluation sheets were occasionally

applied, but in a seemingly random fashion, and these were not integrated into any analysis of the students' development.

While conducting courses on active teaching methods under the auspices of the World Bank, I worked with methodology instructors from the professional development institute, and realized that assessment is an ongoing problem for all instructors. (At the beginning of every course we asked what the participants expected of the training, and most of them listed assessment as their primary concern.) After analyzing all the issues, I divided them into the following major concerns:

1. How is it possible to evaluate classes that incorporate active learning methods according to the traditional grading system?
2. What criteria should be applied to judge the effectiveness of this or that professional development course?
3. What various kinds of qualitative assessment tools are available, and how can they be applied?

It is important to note that the majority of professional development instructors are also practicing teachers, and thus they are interested in questions of assessment from the perspective of both the classroom practitioner (assessing students) and the methodologist (assessing teachers).

I decided to undertake a detailed study of these concerns by devoting my next professional development session entirely to the topic of assessment. My notes from that session formed the basis for this article.

How is it possible to evaluate classes that incorporate active learning methods according to the traditional grading system?

At the beginning of the session the participants were asked to write down their own definitions of assessment and share their ideas with the group. Here are several examples:

- Assessment is identification of the positive and negative aspects of an activity.
- Assessment is the quality control of education.
- Assessment is a tool that allows us to track the development and progress in a teacher's work.
- Assessment is a means of correcting students' work, thereby allowing the teacher to determine students' achievement levels.

Clearly, the participants' concepts of assessment varied considerably. Some saw it as a function of the relationship between teacher and student while others thought of it as a means of working with teachers.

In the course of our discussions we settled on the notion that assessment is a system for determining whether a given process (activities of the students in some type of course or project) is effective, and whether it accomplishes its stated objectives in an efficient and timely fashion. It is an ongoing process, starting with the planning stage and, in effect, never really ending, since the analysis of a completed project becomes part and parcel of planning for the next.

Assessment that is conducted to revise and improve an ongoing process (even as early as the planning stage) is known as *formative* (mid-course) assessment/reporting. This type of evaluation allows for observation of progress, development, and changes, enabling the teacher to make mid-course corrections. Assessment that is based solely on a final result is referred to as *summative* grading (Weiss, 1972). Summative grading relies on the results of interim evaluations, with additional measures (questionnaires, tests, etc.) recommended to confirm the results. The interim evaluations lead to improvement of the process under evaluation; while the final, summative assess-

ment allows for a decision as to whether the process should be continued, and also informs the planning for subsequent activities.

In evaluating a class or course, we decided to consider the following:

- Content (Did the content correspond to the level and needs of the learners? Was it presented effectively?)
- Realization (How well did the methods and strategies used correspond to the educational objectives and the content of the class?)
- Results (Did the class meet expectations? What were some unforeseen results, and how did they affect the teaching/learning process?) (Materials of the International Seminar on Evaluation, 2002)

To demonstrate the importance of proper evaluation criteria, we started with the following warm-up activity: Participants were asked to recall from their own student days a teacher who they believed had graded students fairly and objectively. After hearing the individual recollections, we had a group discussion and concluded that teachers who worked out detailed assessment criteria and shared these criteria with the students were most successful in evaluating their students and were most respected by them. One student cited the example of a physics teacher who included in his evaluations students' knowledge of theory, problem-solving ability and originality in problem solving, eagerness to do supplementary research on a topic, ability to ask good questions, etc.

What criteria should be applied to judge the effectiveness of a professional development course?

To find the answer to this question we brainstormed responses to the following situation:

You have been invited to observe a class. What criteria would you use to evaluate it? (Since the participants in my session were methodology instructors, they were asked how they would evaluate the teacher; teachers could be asked how they would evaluate the students in the class.)

The students proposed the following criteria:

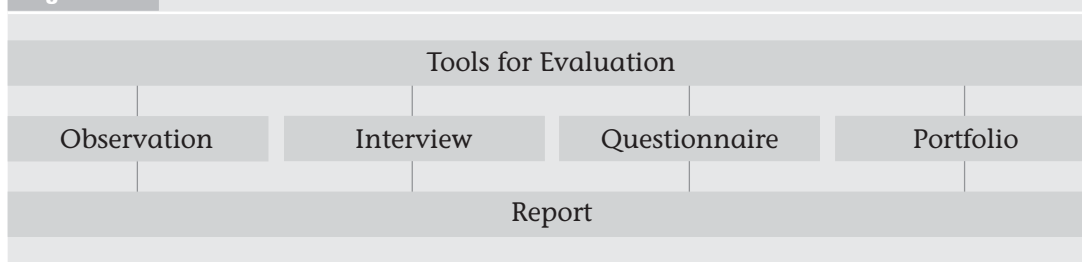
- Class engagement
- Use of visual aids
- Independent activity of the students
- Motivation
- Use of higher order thinking questions
- Rational use of the classroom space
- Lesson planning
- Application of the knowledge, and skill in presenting information

The next step was to work out a graduated scale of parameters for each criterion to be used in conducting the actual assessment. During our discussions we had come to the conclusion that only three of the five grades in our current system (5, 4, and 3, corresponding to A, B, and C in a letter grading system) are actually widely used, so I suggested that our scale consist of just three levels: *excellent*, *good*, and *satisfactory*.

The Table below shows some of the detailed criteria various groups proposed.

Figure 1			
Criterion	Excellent	Good	Satisfactory
Class engagement	• All students involved in the learning process • Both students and teacher contribute to the completion of learning tasks • Assignments are varied depending upon the individual needs of the students (free writing, experiments, drawing, comparative analysis, calculations, etc.) • Students perform tasks enthusiastically • Various sources of information are used, including the expertise of the students themselves	• Tasks are assigned and completed in a timely fashion, but some students assume a passive role • The textbook is the principle source of information • There is some dialogue between students, but most communication is with the teacher	• Assignments are not connected with the topic and fail to arouse interest • Questions posed at the end of the class are low on the scale of Bloom's taxonomy, relying on memory and reproduction (Bloom, 1956) • Reciprocal teaching, with students exchanging ideas and knowledge, takes place only at the beginning of the lesson
Motivation	• Teacher arouses interest in the topic at the beginning of the class and sustains it until the end • Interest in the lesson is stimulated through group discussions and problem-solving situations	• Teacher manages to interest students in the topic at the beginning of class, but their interest wanes by the end • By the end of the class students are no longer actively participating	• Teacher fails to engage the students' interest at the beginning of the lesson • Students are passive and the focus is on the teacher
Use of audiovisual materials	• Teacher uses various audio and video resources appropriate to the goals of the lesson • Students use audio and video resources for independent research • Teacher uses students' work as visual aids	• Visual aids are present; the teacher uses them primarily to present new material • Posters and charts are mainly used for answering lower order questions, (e.g., tables of math formulas or grammar facts).	• Audiovisual materials used have little connection with the topic of the lesson • Visual aids are over-used and actually distract students from the subject at hand
Application of knowledge and skills in presenting information (used as evidence for assessing students' work)	• Students demonstrate excellent skills in applying and presenting information (mastery of artistic, graphic, schematic, and similar tools for presenting information) • Students are able to perform research connected to the topic of study • Students' work shows well-supported deductions and conclusions reached through appropriate arguments and examples	• Students demonstrate good skills in applying information, but are mostly confined to one method of presenting information • Students can select information related to the topic, but have little grasp of the details • Students recognize key issues when working with the text	• Students demonstrate limited ability to apply the basic information and skills. • They can select some information, but details do not really relate to the topic • Arguments and examples lack coherence and relevance and are not applied systematically

Figure 2



It should be noted that the teacher can establish a formula for assigning the total grade, but everyone involved in the process must understand how the evaluation will be conducted. For example, to calculate a single grade based on all the criteria,

- Calculate the individual's average grade for each given criterion, based on all the assessments included in the grade
- If the average turns out to be a fraction, round up to the next higher grade.

In the course of our discussion at the end of this stage of the session, the participants concluded that it is practically impossible to conduct a multifaceted assessment based on many criteria in the context of our current grading system. Any such assessment will be superficial and will not encourage those assessed to reflect on their work. So in addition to quantitative assessment there must be some type of qualitative evaluation—to track where progress is being made and to focus greater attention on the process of learning and the strengths of the learner.

What various kinds of qualitative assessment tools are available, and how can they be applied?

The next stage of our session was devoted to the question above. The participants brainstormed possible answers to create the list of techniques in Figure 2, above.

All these tools allow the evaluator to measure the degree to which a lesson corresponds to defined criteria, thereby increasing the value and credibility of the evaluation process.

Below are brief descriptions of various evaluation tools and examples of their use for assessing the progress of students (by teachers) or teachers (by methodology instructors) (Assessment of Educational Projects, 2003).

Observation is used for gathering information and establishing facts, as it is possible to document (and/or count) what is observed.

Example 1: When observing a class I often make use of observation forms, which can subsequently help me reflect on the lesson and more accurately assess the students (Figure 3).

Figure 3

Observation form for Physics

Topic:

Date:

Number of students:

Observation period:

Name	Group work	New ideas	Questions asked	Questions answered	Notes
General comments:					

Figure 4

The RWCT teacher rubric

Name: Valida Bagirova

Grade: 7

Place of employment: school #160

Number of students: 33

Date: May 18

Subject: Zoology

Observer: Mehriban Ahmedova

STANDARD		OBSERVATIONS AND COMMENT
Climate for Learning		
encourage students to express and support their ideas and opinions; promote interaction among students and teachers in a climate of trust, tolerance, and mutual respect; exchange opinions with students and model ways to support ideas	X	The dominating direction of interaction at the lesson was <i>teacher ↔ student</i>
incorporate cooperative learning strategies into lessons	X	During a considerable part of the lesson students worked in groups, the groups used different approaches while filling the KWL chart
adapt the physical arrangement of the classroom to reflect lesson needs and to facilitate the grouping of students for effective interaction	X	In the course of group work the students changed their places, moving from desk to desk
ensure that the learning environment and wall displays reflect student work	X	The results of students' work were presented to the whole class
Planning and Instruction		
design lessons based on the ERR framework (Evocation, Realization of Meaning, and Reflection)	X	KWL charts, group work, direct observation (earthworm), presenting products of group work
supplement textbooks with additional instructional materials that enrich the curriculum, make it accessible to students, and encourage interpretation	X	Students worked with textbooks, models, with live earthworms
use student reading and writing as a means for exploring and clarifying ideas	X	Reading and writing at the lesson contributed to better understanding
ask open-ended and higher order questions to encourage expression of diverse student ideas, opinions, and responses; create classroom climates in which students are encouraged to formulate and ask higher order questions	X	Interesting questions were asked concerning comparison and applications
provide adequate wait time and opportunities to complete responses without teacher interruption	X	All speakers had a chance to express their ideas
Assessment and Evaluation		
use strategies that are authentic, constructive, fair, and clear; assess the processes of learning, as well as the outcomes; use multiple approaches to assess understanding, attitudes, skills, and knowledge		Not observed
Personal and Professional Qualities		
are critical thinkers who model inquiry for students and peers	X	The teacher keeps searching for more effective ways of presenting the material, does not confine herself to using the same strategies but follows the educational objectives
Assessment of the lesson		
	X	The teacher is consistent in using and mastering the RWCT skills

Figure 5

Question or Issue:

Interviewer:

Respondent:

Respondent's occupation and place of employment:

(Interviewer explains the issue to the respondent, then records his answers to the questions below)

1. Do you consider this issue to be important? Why or why not?
2. What organizations are currently involved with this issue?
3. What is your organization doing to resolve this problem?
4. What do you see as the strengths and weaknesses of your organization's work in this area?
5. Where might I find additional information on this issue? What other people might I consult?

Example 2: When observing a lesson, one has limited time to collect as much information as possible, in as much detail as possible: facts and examples that are necessary for a focused and useful discussion with the teacher following the class. Within the framework of the Reading and Writing for Critical Thinking (RWCT) program, certifiers make use of an observation form such as the one on p. 34 (RWCT Project Certification Standards and Procedures, 2000). The "x" marks denote the extent to which the teacher being observed has met the given criteria (Figure 4).

Interview is a tool that enables people (in this case, participants in the teaching/learning process) to discuss issues openly and explain their viewpoints.

Example 1: When the class is preparing to engage in research, the students and I often compile questionnaires to use for

conducting interviews and gathering information on a given issue. I have also used this type of questionnaire for class projects (Figure 5).

Example 2: As part of the RWCT certification process I interview the participants, asking them about the course in particular and about their professional experience and educational philosophy in general (Figure 6).

Questionnaires can be used for gathering information, with respondents given appropriate time to collect information and consider their responses.

Example 1: I am a physics teacher, and at the beginning of the school year I give my students an initial questionnaire to provide me with a sense of their expectations and motivations. At the end of the year, I compare the responses on these questionnaires with the students' actual performance in the course. I also hand back the students' questionnaires and ask them to make a similar

Figure 6

RWCT Certification: Questions for teachers

1. How often do you employ RWCT methods in your classroom?
2. What changes have you observed, in yourself and in your students, since you were introduced to the program?
3. What concrete measures have you taken to interest your colleagues in the program? Have you had any success?
4. What effect will certification have on your plans for the future?
5. Have any of your lesson plans failed to produce expected results? Why do you suppose this happened?
6. How often, and in what situations, do you use your portfolio?
7. What are your plans for future professional development? Do you have a specific plan for continuing education?
8. Describe your lesson planning process (materials used, classroom environment, resources, etc.).
9. What methods do you most often use to assess students' progress?
10. How do you react if, during group presentations, your students do not listen to one another?
11. Would you be willing to serve as a model teacher for the RWCT program? Would you be willing to have your class serve as a model class?

Figure 7

Questionnaire for physics students

- I. My main objectives in this course are (choose 3–5 that you consider most important):
- a) to learn the material in the textbook
 - b) to become familiar with the basic laws and concepts of physics
 - c) to become more aware of physics in nature
 - d) to be well-prepared for the exams
 - e) to develop independent study skills
 - f) to learn to use laboratory equipment and conduct experiments
 - g) to learn to listen to others and express my own ideas
 - h) to develop my academic abilities
 - i) to learn to solve physics problems
 - j) I have no objectives
- II. I would like to participate in the following activities (select all that apply):
- a) listen to the teacher and answer the teacher's questions
 - b) read interesting books and articles and discuss them in class
 - c) perform experiments
 - d) play the role of the instructor (or lab assistant, or researcher)
 - e) study independently according to an individual plan of study
 - f) apply what I have learned in class at home and in school
 - g) formulate my own hypotheses and experiments

comparison (in writing), describing their achievements in each area (Figure 7).

Example 2: To select candidates for our course on active teaching methods, we, the instructors, use the following questionnaire (Figure 8).

Portfolios are collections of papers and materials documenting a learner's work. Assessment of the portfolio commonly takes the form of a consultation between teacher and student, including questions and discussion to clarify significant points and provide additional details.

Example 1: My 7th-grade students kept portfolios throughout the year, and we assessed them at year's end according to criteria we had established together.

Materials to be included in your student portfolio:

- The most interesting reports you wrote in the course of the year
- Lab reports, including descriptions of experiments and results obtained
- Any supplementary material you found concerning the topics we studied
- Solutions to interesting problems

Figure 8

Course Application Form

Name:
Place of employment:
Position:
Subject area:
Length of employment in current school or university:

Professional development activities during the past 5 years (seminars, conferences, etc.)

Event	Location	Date	Briefly describe what you learned

Research and publications:

Educational background (degree attained):

Write a brief essay explaining why you would like to participate in the seminar.

- A description of the three classes you found most interesting, including topic of the lesson, brief description of the class, what you learned from this class, and why you found it interesting
- Any relevant graphic materials you have made (drawings, charts, photos, etc.)

Example 2: I often advise participants in the RWCT training courses to keep a teacher's portfolio, which is then assessed according to established standards.

Materials to be included in your teacher portfolio:

- Reflections on your participation in the teacher training program
- Your notes from various training activities (e.g., conducting a class, evaluating a class, group discussion, warm-up activities)
- Sample training materials created by you
- Meeting agendas for monthly gatherings, and analysis of those meetings
- Written observations and commentaries from your colleagues, the certifier, and the international volunteers assisting with your training program

After each stage of assessment, the evaluator (student, teacher, methodology instructor, or expert advisor) can write a **report** on the evaluation that captures the dynamic nature of the process (UNICEF Guide for Monitoring and Evaluation, 1991; also Stufflebim, 1999). Such a report allows for monitoring not only the level of students' achievement with regard to the syllabus, but also the progress in the assessment process itself. This information can inform improvements in the instructional activities and plans for future instruction.

Conclusion

At the end of the professional development session on assessment, I asked the participants to elaborate on their definitions of assessment offered at the beginning of the session. We formulated the new ideas using the rhetorical framework *not only...but also....* Here are some examples of the final definitions:

- Assessment is not only identification of the positive and negative aspects

of an activity, but also examination of the effectiveness and successes of the activity, through analysis and interpretation of relevant data.

- Assessment is not only the quality control of education, but also a system that allows us to track the learning process, thereby placing greater attention on the learner's accomplishments and less attention on his or her shortcomings.

It seems to me that these definitions provide a perfect reflection of the importance of assessment in the contemporary world, where it is not just the facts that are important to our young people. Equally important are the skills and abilities necessary to establish their place in society. Assessment today must take into account the goals of today's education system, the complexity of the system, and the reforms of both the past and future. It must also take into account changing social demands and the need for a well-prepared workforce. In short, meaningful assessment can increase the accessibility and the effectiveness of education, and thereby help to make lifelong learning a reality.

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Warming Up to Learn:

Using Introductory Questions to Activate Critical Thinking

Imagine yourself in an after-school workshop that begins with this introductory question: What do a firecracker, a pressure cooker, and an effective lesson in your classroom have in common? Several answers might spring to mind: They all need someone to light them; They all build up pressure or create an explosion; or No matter how carefully you plan, things could blow up.

This article is intended to persuade teachers of all grade levels to use such a higher level thinking question as a five-minute introduction to every lesson, in every subject they teach, as one way to activate prior knowledge and engage students' interest. Many teachers are much more comfortable with low-level factual questions and do not feel at ease asking—or answering—higher level questions. However, introductory higher level thinking questions establish a focus for listening and reading throughout the lesson.

Definitions of Critical Thinking

What is meant by *critical* or *higher order* thinking? Critical thinking explores a situation, question, or problem so as to arrive at a hypothesis or conclusion that integrates all the available information and can be convincingly justified (Kurfiss, 1988). Definitions of critical thinking usually include skills such as predicting, observing carefully, generalizing, comparing, finding assumptions and connections, reasoning through the use of analogies, and finding causes (DiSpezio, 1998). In other words, critical thinking is a rational application of facts in a new and creative way. It uses

reasoning and problem-solving skills. There are multiple answers to questions. Evaluative conclusions are involved in the process. Students need to justify their answers by explaining why they generated a given answer.

Similarly, using the higher levels of Bloom's *Taxonomy* (1956)—application, analysis, synthesis, and evaluation—critical thinking questions go beyond merely recalling or comprehending the facts. The facts have to be compared or analyzed in a creative way. The *evaluation* level considers the value of the material in question based on personal opinion, with no right or wrong answers. Opinions have to be evaluated and prioritized, with clearly stated justifications for these decisions.

Harvard University's *Project Zero* (named because so little was known about cognitive functioning at the time of its inception in the 1960s) stresses the attitudes, values, passions, and skills that support critical thinking in the classroom (Perkins & Blythe, 1994). The three important elements that characterize thinking dispositions are ability, inclination, and sensitivity (Perkins, 1991). Earlier research developed "thinking routines," or patterns of thinking, to model different levels of thinking and questioning in the classroom (Olson, 1988).

Paul, Binker, Martin, and Adamson (1995) and Elder and Paul (1997) provide another perspective, breaking critical thinking into three categories: affective strategies, macro-cognitive skills, and micro-cognitive skills. The affective strategies include thinking independently

and developing intellectual courage and confidence in reason. The broad macro-cognitive skills involve comparing analogous situations and transferring knowledge into new contexts; reading and listening critically; and clarifying issues, conclusions, and beliefs. In contrast, the more refined micro-cognitive skills, those involved in critical thinking, contrast ideals with actual practice, use precise vocabulary, and evaluate assumptions and conclusions, as well as evidence for alleged facts (see Figure 1).

Rationale for Using Critical Thinking Questions in the Classroom

Why is it important for teachers to encourage critical thinking in their classrooms at all grade levels? As individuals, students need to problem solve and consider various options in their life experiences. Critical thinking gets them motivated to do school assignments and gives them a vested interest in following up on their own predictions. The creative part of the brain is working in conjunction with the logical part of the brain.

From a career perspective, scientists and engineers, among others, need to go beyond following previously written formulas and experiments. New inventions and innovative solutions to old problems are waiting to be discovered. Analyzing differences and similarities, as well as discerning fact from opinion, and identifying reasoned judgment, are important skills.

Advantages to Higher Level Questions in Introductions of Lessons

There are many instructional advantages to introducing a lesson with a higher level thinking question. First, the question will activate your students' prior knowledge on the topic for the day, "warming them up" like an athlete for a race. Second, it will encourage participation of students from all ability levels because the question does not have just one factual answer. Third, the incentive to seek the answer to the question within the lesson adds motivation to the activities that follow. Students feel a sense of ownership regarding their own predicted answers, which helps them focus their reading. Fourth, this strategy will ensure that at least

Figure 1

Strategy List: 35 Dimensions of Critical Thought

Critical Thinking Handbook: High School

Paul, Binker, Martin, & Adamson (1995), p. 56.

A. Affective Strategies

- S-1 thinking independently
- S-2 developing insight into egocentricity or socio-centricity
- S-3 exercising fair-mindedness
- S-4 exploring thoughts underlying feelings/attitudes under thoughts
- S-5 developing intellectual humility/suspending judgment
- S-6 developing intellectual courage
- S-7 developing intellectual good faith or integrity
- S-8 developing intellectual perseverance
- S-9 developing confidence in reason

B. Cognitive Strategies – Macro-Abilities

- S-10 refining generalizations and avoiding oversimplification
- S-11 comparing analogous situations and transferring insights to new contexts
- S-12 developing one's perspective: creating and exploring beliefs, arguments, or theories
- S-13 clarifying issues, conclusions, or beliefs
- S-14 clarifying and analyzing meanings of words/phrases
- S-15 developing criteria for evaluation: clarifying values and standards
- S-16 evaluating the credibility of sources of information
- S-17 questioning deeply: raising and pursuing significant questions
- S-18 analyzing arguments, interpretations, beliefs, and theories
- S-19 generating or assessing solutions
- S-20 analyzing or evaluating actions or policies
- S-21 reading critically: clarifying or critiquing texts
- S-22 listening critically: the art of silent dialogue
- S-23 making interdisciplinary connections
- S-24 practicing Socratic discussion: clarifying questioning beliefs
- S-25 reasoning dialogically: comparing perspectives, interpretations, or theories
- S-26 reasoning dialectically: evaluating perspectives, interpretations, or theories

C. Cognitive Strategies - Micro-Skills

- S-27 comparing/contrasting ideals with actual practice
- S-28 using precise and critical vocabulary
- S-29 examining or evaluating assumptions
- S-30 examining or evaluating conclusions
- S-31 distinguishing relevant from irrelevant facts
- S-32 making plausible inferences, predictions, or interpretations
- S-33 evaluating evidence and alleged facts
- S-34 recognizing contradictions
- S-35 exploring implications and consequences



Photo: PhotoDisc, Inc.

one open-ended type of question is included in each lesson (although teachers are not limited to one), making each lesson a mixture of factual and higher level thinking. Fifth, probing questions from the teacher invite further clarification and justification from the students. After this kind of introduction, the students have now been “warmed up” to learn the lesson’s objective, like athletes stretching their muscles before a race.

Probing Students’ Answers to Introductory Questions

The teacher/facilitator may ask follow-up questions to probe students’ assumptions, viewpoints, reasoning, and evidence. The students should be asked to justify their answers, as additional questions may be needed for clarification. For example, the question from the beginning of this article, What do a firecracker, a pressure cooker, and an effective lesson in your classroom have in common? might lead to follow-up questions such as these:

Teacher Participant: They all need someone to light them.

1. *Facilitator’s probe:* Good. Who lights the students in your classroom?

Teacher Participant: Other students, the teacher, a book, a speaker, or a video.

Teacher Participant: They all build up pressure or have an explosion.

2. *Facilitator’s probe:* Great. What types of explosions occur in your classroom?

Teacher Participant: Students have “ah-ha” experiences. The light bulb finally goes on.

Teacher Participant: Sometimes they are all duds.

3. *Facilitator’s probe:* Good ideas. How are lessons sometimes duds?

Teacher Participant: The students don’t understand. The light bulb doesn’t go on.

Questions that probe your students’ responses supply clarity and depth to their thinking processes.

Criteria for Introductory Questions

There are several criteria for effective introductory questions. The first two are obvious: The question needs to tie into the topic being studied during that class period, and it needs to be quick, taking only five minutes at the beginning of class. The question also needs to be creative and motivational, because it is the “hook” that draws the students into class activities. Fourth, it needs to involve thinking with a new slant, not regurgitation of a memorized fact. Fifth, the answer to the question cannot be found in the encyclopedia, because it is not a literal fact. Sixth, this five-minute introductory question is open-ended, i.e.,

there are many possible answers to it. The teacher keeps saying, “Good prediction. Who else has an idea?” Many different answers are accepted and written on the board. Finally, answers proposed by the students at the beginning of the class are revisited at the close of the lesson, and confirmed, rejected, and/or extended with textual support (see Figure 2).

Three Types of Higher Level Thinking Questions

When I analyzed preservice teachers’ science and social studies lesson plans, three types of higher level introductory questions emerged: analogy, opinion, and imagination/

future. Examples of analogy questions include the following:

How are a detective and a scientist alike? Why? (from a science lesson).

What do a corpse, human anatomy, and a ceiling have in common? Why? (from an art appreciation lesson).

An example of an opinion question: If you could form a perfect government, what foundations would it have, and how would you guarantee freedoms? Why? (from a university-level government or Western civilization lesson).

Finally, an example of an imaginative question: If someone kidnapped you in the middle of the night, what three things would you grab to take with you and why? (from an English

Figure 2

Criteria for Introductory Questions

Introductory Questions should:

1. tie into the topic of the day.
2. last only 5 minutes at the beginning of the session.
3. be creative and motivational.
4. involve thinking with a “new slant.”
5. NOT have a factual answer in the encyclopedia.
6. be open-ended with many possible answers at the opening of the lesson.
7. be revisited at the end of the lesson.

Examples:

Although students won’t get the textual answer until the passage is read, many creative responses are encouraged at the introductory phase.

- If someone kidnapped you in the middle of the night, what three things would you grab to take with you? Why? (from an autobiographical account of an African teenager abducted to America on a slave ship)
- What do playing with blocks, building a house, and writing an effective paragraph have in common? Why? (from a composition lesson)
- What do German Jews, African Americans, and Arabian women have in common? Why? (from a world history lesson)
- How are Darwin’s theory of evolution and the Big Bang theory alike? Different? (from a biology lesson)
- What do garbage, alcohol, and swamp gas have in common? Why? (from a science ecology lesson)
- What do dots, paint, and renegades have in common? Why? (from an art appreciation lesson)
- What do lowland gorillas, whales, and a stegosaurus have in common? Why? (from a science lesson on extinction)

literature lesson about an autobiographical text written by an African teenager who was abducted and transported to the American colonies on a slave ship).

In summary, it is important to use a variety of types of introductory questions to start your lessons (see Figure 3).

Criteria for Evaluating Answers to Higher Level Thinking Questions

Whether informal or formal assessment of students' thinking is the goal, evaluation of an answer to a higher level thinking question has several components. Generally, the teacher should check for the students' abilities to stay focused on the topic at hand, to explore all of its facets, and to justify their answers (Elder & Paul, 1997). Of course, expectations for the depth and breadth of the analysis will be based on the age and developmental level of the students (see Figure 4).

Figure 3

Three Types of Introductory Questions

I. Analogy (Bloom's *Analysis* and *Synthesis* levels)

EX: What do a green bean, an apple, and orange juice have in common? (from a health lesson on low-fat foods)

What do sewage, pesticides, and crude oil have in common? Why? (from a science lesson on water pollution)

II. Opinion (Bloom's *Synthesis* and *Evaluation* levels)

EX: Who was the greatest leader of your country, and why? (from a unit on Presidents/Queens/Emperors/Czars, etc.)

Would anything have changed historically if Winston Churchill had not been England's prime minister during World War II? Why or why not? (from a world history lesson)

III. Imagination/Future (Bloom's *Synthesis* level)

EX: If you could create a new means of transportation, what would it be? Why? (from a unit on transportation)

If you could form a perfect government, what foundations would it have and how would you guarantee freedoms? Why? (from a government or history lesson)

Figure 4

Evaluating Answers to Higher Level Questions

(Elder & Paul, 1997)

- ACCURACY: Is the information accurate factually?
- RELEVANCE: Is the information pertinent?
- DEPTH: Does it effectively deal with the complexities of the issue?
- BREADTH: Does it consider all points of view relevant to the issue?
- JUSTIFIABLE: Are the assumptions sound?
- LOGICAL: Are the conclusions logical?

Figure 5

Writing Introductory Questions

Think of three topics that you will teach next week. Generate an introductory question for each topic from at least one of the three types explained.

TOPIC #1:

a. ANALOGY: (EX: What do a green bean, an apple, and orange juice have in common?)

b. OPINION: (EX: Throughout history, who was your country's greatest leader? Why?)

c. IMAGINATIVE/FUTURE: (EX: If you could invent a new means of transportation, what would it be? Why?)

TOPIC #2:

a. ANALOGY:

b. OPINION:

c. IMAGINATIVE/FUTURE:

TOPIC #3:

a. ANALOGY:

b. OPINION:

c. IMAGINATIVE/FUTURE:

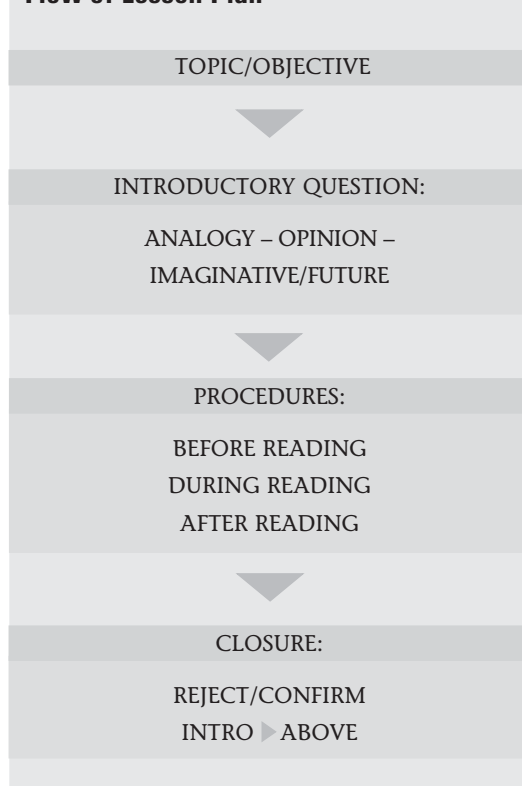
Application to Your Own Lesson Plans

The challenge to you is twofold: to use open-ended introductory questions to begin each class session, and to evaluate the flow of your lesson plans as you integrate the ideas generated by your introductory questions. First, think of three topics you will teach next week, decide which type of introductory question best fits each topic, and write some suitable questions on the chart in Figure 5. Later, write the questions you have chosen in your lesson plan book. Check them against the criteria established in Figure 2.

Next, critique your lesson plans. The learning objective, the introductory question, the procedures or activities for the day, and the conclusion should all support each other. Check that each lesson comes full circle from the introductory question to the confirmation/rejection of the predicted answers at the close. References can be provided to support the correct answers (see Figure 6).

Figure 6

Flow of Lesson Plan



Conclusion

Finally, the teacher's challenge is to add energy, to light a spark. Given my goal in writing this article, I will revisit the original question and note that a firecracker, a pressure cooker, and a successful lesson all have to be activated in order to build up to their climax and achieve the intended result. The firecracker is lit with a match, the pressure cooker is activated by the heat of the stove, and the lesson is started with an interesting introductory question that "fires up" the students' interest within the first five minutes.

Be creative! Plan to add open-ended introductory questions to your lesson plans now—because the brain, like the muscles, will work more effectively if you have warmed it up early in the lesson.

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Feedback as I See It

Lyubov A. Lozhenitsyna

The classroom teacher sets the stage by presenting material, but it is, ultimately, the students' perception and understanding of that material that determines what we call education. And how might a teacher assess his or her students' understanding? Perhaps through a quiz, or a written assignment, or an exam. Alternatively, students can be asked to fill out exit cards that will allow teachers and students to establish a system of mutual feedback.

Feedback, as I understand it, may be any kind of response—content based, related to the methods used, or descriptive of the emotional impact drawn from a lesson—that helps me evaluate and introduce changes in my own work.

Feedback is vital in any subject, but as a French language teacher I am especially aware of its importance because of the communication-based methodology that prevails in our field today. At our university we have an additional challenge, as foreign languages are studied in a non-immersion setting and in isolation from their linguistic environments.

At a seminar on critical thinking, I was introduced to exit cards—a simple device for eliciting feedback from participants: What do you see as the most important ideas presented? Do you have any questions? The teacher asks the questions, and students jot down their answers. I decided to use a similar technique in my college classes, in part to encourage reflection and in part to give me information on how students

were making sense of my lessons. However, as I worked to formulate the questions I would ask, I realized that this technique could do more than what I had first imagined. That is, such comments could be used to facilitate a simple, relevant, and interesting ongoing dialogue with my students about the instruction being offered.

To this end, I could include both factual and open-ended questions by condensing or expanding the card format. Students could respond to the questions either individually or in groups. These simple little pieces of paper with my typed or hand-written questions and answer-blanks (I could even sometimes present the questions orally) could, I realized, provide me, the teacher, with really valuable information. To preserve anonymity and encourage freedom of expression, students would not be asked to sign their responses.

I have come to view the act of working on the questions and responses as a form of discourse between me and my students. I always make sure to thank the students for their responses, and, to avoid embarrassing them, I never read their answers in their presence. Usually I hand out the feedback questionnaires when we are finishing our study of a particular theme or literary work. The kind of information the questionnaires provide is especially important when students have been working independently, since it gives me an idea as to how well they have learned the material.

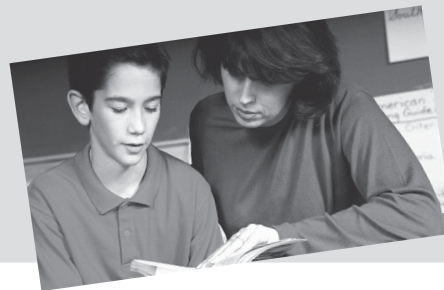
When I am formulating questions for exit questionnaires, I always take the source material (the literary or nonfiction text) and the

objectives of the lesson as my starting points. Part of a teacher's responsibility is to choose appropriate texts and develop questions to guide students as they engage in reading these primary sources. In addition to providing information, a text may encourage students to reflect on a situation faced by the main character. Students express their own interpretations and demonstrate their comprehension of the author's intent through oral and written discourse. Subsequent discussion in pairs or small groups allows them to clarify their insights and generalize from a variety of sources. In so doing, the students reflect on the text and formulate conclusions, which they later present to the entire group. The proverbial wisdom, "two heads are better than one," is borne out in our classes: Diverse perspectives not only help students clarify the content but also stimulate further reflection.

In a French literature lesson, for instance, we read two articles (in French) on the history of French theater. This was the first lesson of the term, providing an introduction to the entire course. The texts invited students to learn facts and form generalizations, and also to reflect on the course that lay ahead. At the end of the class the students were asked to fill out the following exit card:

- What I learned
- What I would like to learn
- What I liked
- What I did not like

I decided to expand on the section *What I learned* because the students had worked on the articles independently. On a large sheet of paper I drew the outline of a tree, symbolizing *The Theater*. Instead of



simply filling out the section *What I learned* on their cards, students were asked to identify terms and concepts that were new to them and write these words on colored paper flowers to be placed on the tree. The flowers could be any color, but they had to be flowers, rather than fruit, because they represented the first stage of learning the new material. Students could hang the flowers anywhere on the tree poster—in the branches, on the trunk, or even on the ground. This activity gave me an indication of how well the students had understood the text, and what we would need to concentrate on in the upcoming lessons.

During our discussions each student had an opportunity to talk and to listen, which allowed students both to present new knowledge to the group and to clarify anything they had missed or misunderstood in the article. At this stage the students' questions to one another consisted primarily of asking the meaning of vocabulary words. Despite the cultural and linguistic difficulties inherent in conducting the course in the target language—new terminology, names, facts, and cultural context, plus the varying skill levels of the students—the class was able to work independently with the text.

In the section *What I would like to learn* students' answers included the following:

- To read the works of French authors
- To study these works in more detail
- To learn more about theatrical genres

These responses, unsophisticated though they were, showed

that the students' curiosity had been piqued regarding the upcoming course content.

Among the things mentioned under *What I liked* were,

- The idea of representing The Theater as a tree
- The proposal that we continue to develop this theme during the rest of the semester, adding leaves and fruit to the tree
- The approach to analyzing the text, allowing for better comprehension of the material
- Reading the text about the development of theatrical genres

Obviously, the act of creating these colored paper flowers increased student enthusiasm for a new and unfamiliar topic. Usually I allow only five to seven minutes for the exit cards, but in this case I used the extended version of the exit questionnaire. Our work with the cards, including presentations and answering the questions, took half the class period, but in my opinion it was worth the time. As I studied the students' responses during this unit I noticed that the tree metaphor tended to take on an increasingly complex structure. Eventually we added leaves showing the names of the most interesting authors, and fruits with the titles of theatrical works. Thus by the end of the semester we had fully decorated our *tree-theater*.

When I am teaching French literature, one of my goals is to help students understand the motivation and actions of characters, often putting themselves in their place. I tell my students, "Make friends with the hero, and you'll

understand why she does what she does. Ask the author questions. Offer your own solution to the problems." Often the problems confronting literary characters are sufficiently contemporary that students can provide examples of analogous situations and feelings from their own life experiences.

Following the reading and discussion of a poem, a scene from a play, or a chapter of a novel, I give my students a different kind of exit questionnaire. This one contains the following sections:

- What I learned
- Questions:
 - for myself
 - for the teacher
 - for other students

After reading and discussing a text both orally and in written form, students may ask completely unexpected questions. After studying Flaubert's *Madame Bovary*, one all-female group had a single question: "Does this mean that people shouldn't dream?" When they filled out their exit cards, under *What I learned* the girls wrote that dreams that are disconnected from real life are empty and unattainable; that the pursuit of your dreams must not take you away from the suffering of those close to you. For some of these students at least, the exit questionnaires helped to draw conclusions relevant to their own lives, while at the same time they helped the teacher to plan for future work—what topics to focus on, what texts to choose to show how authors resolve this or that problem. My own hope is that by reflecting on the problems and possible solutions confronting literary characters, students will come to a deeper understanding of the world, which will make them

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better companions, friends, and partners, capable of understanding, forgiveness, support, empathy—precisely those things we need the most in the world today.

In the most crucial and difficult moments in our lives we sometimes turn to the people closest to us for advice. So why not turn to a favorite literary character? Once we have come to understand the character's motivations and manner of expression, we can predict and outline how that character might react in a given situation. It is for this very reason that I give students exit questionnaires with the following questions:

What would my favorite character wish...

...for me?

...for the author who created him/her?

...for the teacher?

Here is an example of one student's work, in French as the student originally wrote it and in English translation. Second-year student Aidjan Ayazbekova chose as her favorite character the wolf Isengrim (Ysengrimus) from the medieval tale of Reynard the Fox, and she expressed his wishes in verse form. She wrote this poem in the space of a few minutes!

*J'ai appris durant ce semestre
Que je suis le chef-d'orchestre
Vous faites ce que je veux
Et ce que je désire
Ça me donne plein de plaisir
Je voudrais apprendre qui me préfère
ou me lit
Je voudrais apprendre tous mes
ennemies
Je voudrais apprendre si mes tours
vous ont aidé
Dans vos difficultés
A moi-même je souhaite être plus bon
A toi, mon auteur, je souhaite
De ne pas aimer les bonbons
Parce que je pense que*

*Tu as déjà reçu quelques leçons
Et à vous, mon lecteur,
Je souhaite être protecteur
De vos propres avis
Et soyez consultant à vos amis*

*[I have learned this semester
That I'm the conductor of
an orchestra.*

*You all do what I want,
Whatever I wish,
And that makes me very pleased
I would like to find out who likes me,
who reads about me.*

*I would like to learn who all my
enemies are.*

*I would like to know if my tricks have
proved helpful to you*

With your own problems.

*For myself, I would wish to be a better
person.*

*For you, my author, I wish
That you not be in love with sweets,
Since I think you
Have already learned some lessons in
that regard*

*And to you, my reader,
I hope that you will
Defend your own opinions
And be an advisor to your friends.]*

Most students choose to express their wishes in the form of a letter. This format allows them to write from the character's point of view. Having learned about and become very familiar with these characters, the students do an excellent job with this assignment. From their answers I can clearly see what I should focus on in our subsequent work—what questions I should ask, what texts we should analyze—to help guide the students not only in their study of literary works and genres, but also in their personal and professional lives. In any case, their answers always reveal whether this topic has had an effect on them, whether it has inspired them to learn more.

The greatest difficulties arise when the exit questions require self-analysis, or expression of personal wishes and goals. In essence, such questions call for a program of self-improvement. Not everyone is prepared to undertake that. But the first sign of a mature personality is dissatisfaction with oneself. I hope that the students I work with will gradually mature, and that their literature lessons are not a waste of time.

It is interesting and useful to view oneself through the eyes of one's students, to find out how they assess the content of the class so that one can better determine the future directions and goals of the course. I feel both nervous and grateful when I collect and read my students' exit questionnaires. I go through the entire course and analyze it, as a whole and in sections. This process helps me improve the way I present the material and apply various strategies that promote critical thinking—sometimes using several strategies in combination, sometimes using only part of a particular strategy.

Every class session is unique, even if the teacher has the same goals, uses the same materials, and applies the same methodology. A flexible approach to lesson planning, based on student feedback, allows me to introduce changes in mid-stream and make use of a variety of materials. As a result we cover all the material, the students are happy, and I, the teacher, can achieve the necessary educational goals.

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Strategic Moves



Creating Opportunities for Generative Review

William G. Brozo

Previously in this column I have stressed the need for teaching strategies that require students to demonstrate their new understandings in unique and engaging ways. For example, when students are given imaginative options for writing about what they have learned, such as retelling a story from a different perspective, or suggesting solutions for a problem raised by the text, they can display their knowledge of important facts and details through a creative and enjoyable discourse mode (see Brozo, 2003).

Many other instructional possibilities offer students interesting ways to display newly learned information. An important common feature of these strategies is that they promote *generative* learning. Generative learning theory (Wittrock, 1990) holds that students learn best when they are taught how to create or *generate* their own learning prompts and demonstrations. Too often students are expected to play passive roles, responding only to prompts from the teacher or the text. Active learners, on the other hand, generate their own questions, objectives, and examples. As shown in the table to the right, every prompt or aid from the text or teacher can be created by the learner. These learner-generated prompts increase engagement and promote long-term recall of newly learned information and ideas.

If the Text or Teacher Provides...	Then the Learner Should Be Taught To:
Headings and Subheadings	Compose Headings and Subheadings
Titles	Compose Titles
Highlighted Words or Phrases . .	Highlight Important Words and Phrases
Questions	Develop Questions
Objectives	Write Objectives
Summaries	Produce Oral and/or Written Summaries
Marginal Gloss	Create Marginal Gloss
Analogies	Give Analogies
Examples	Provide Examples
Graphs and Tables	Prepare Graphs and Tables
Maps	Draw Maps
Problems to Be Solved	Create Problems to Be Solved
Graphic Overviews	Make Graphic Overviews

Two Generative Review Strategies Popcorn Review

The day after his literature class finished reading the Sherlock Holmes story "The Musgrave Ritual" (Doyle, 1930), Mr. Gôrce had his students arrange four chairs in a square in the middle

of the classroom. He then asked for four volunteers each to take a seat. Shortly after getting settled, one of the four stood up and said, "Late at night Sir Reginald [a character in the story] went downstairs for a book because he couldn't fall asleep." Immediately

Strategic Moves



afterward another student popped up and added, "He saw light coming from his study and thought there was a burglar." This comment was followed by a third student's contribution, "Sir Reginald grabbed a medieval weapon hanging on the wall and opened the study door." Then the fourth student jumped up and said, "He surprised his butler, Brunton, who jumped up in fear and stuffed something into his pocket." At this point, Mr. Gôrce stopped the four students and confirmed with the rest of the class that the statements constituted an accurate retelling. He then thanked the students and asked for four more volunteers to replace them.

Mr. Gôrce's students were demonstrating a strategy called *Popcorn Review*. It begins with a student "popping" up and briefly describing a scene from a play, chapter, or story the class has just read. The next student who pops up must correctly supply the following event, and so on. The strategy gets its name from the random order in which students stand up, like popping corn, to provide their statements.

By placing a small group in the middle of the room, Mr. Gôrce can keep everyone's attention, as the other students listen for details that are specious or out of sequence. By frequently rotating the group of reviewers, Mr. Gôrce keeps everyone focused and ready to participate. Through this fun and unique review process, classmates hold each other accountable for an accurate retelling of

the events and clarify inaccuracies or fill gaps in recall for one another (Brozo, 2002).

Professor Know-It-All

Mrs. Naje-Ullah approaches a science review with a humorous disposition. She uses props to denote certain students as "experts" in the material just learned. Picture a group of three students standing at the front of the classroom. Each is wearing a white lab coat and mortar board, and is holding a clipboard. These are the "experts" in the strategy known as *Professor Know-It-All*. The three take questions from the "audience" (their classmates), and huddle together in consultation before turning to the class with their answers.

When Mrs. Naje-Ullah's class completed a textbook chapter on botany, she asked three students to don the Know-It-All regalia and take their places at the front of the room. The first question for the trio of experts was, "Why are plants green?" The three quickly formed a tight circle, consulted one another on the answer, then faced the class and replied, with each taking a turn to say one word of the sentence: "Plants-get-their-green-color-from-chlorophyll." After fielding several additional questions, this group of Know-It-Alls was replaced by a new team, until everyone had the opportunity to be an expert on the topic. As with Popcorn Review, the Professor Know-It-All strategy ensures a high level of participation by all students, which improves recall and reinforces new understandings.

Both Popcorn Review and Professor Know-It-All can transform a process that is usually boring and monotonous into a fresh, sometimes humorous activity. Instead of passively waiting for the teacher to ask questions and call on someone for an answer, students prompt and monitor each other as they review narrative or technical content. Giving students the responsibility for review creates conditions in which they can become generative learners, and at the same time increases their level of engagement (Brozo & Simpson, 2003).

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Thinking Classroom (also published in Russian as *Peremena*) serves as an international forum of exchange among teachers, teacher educators, and others interested in democratic teaching practices. It seeks to encourage professional development, research, and reflection. Authors are invited to submit articles that focus on active inquiry, student-centered learning, alternative assessment, and other aspects of educational change. Due to the international nature of the journal, articles should address issues that appeal to a wide audience, and terms or examples that are specific to a particular country or region should be explained in the text.

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Berkowitz, Marvin W. (United States)	Jul 5
Brozo, William G. (United States)	Jan 38, Apr 42, Oct 47
Chorgolashvili, Paata (Georgia)	Jul 5
Coffey, Debra J. (United States)	Jan 40
Dinic, Rastislav (Serbia)	Apr 45
Dusheina, Tatiana (Russia)	Jul 5
Eken, Ali Nihat (Turkey)	Apr 5
Farberman, Boris L. (Uzbekistan); & Musina, Ruzania G.	Oct 12
Fisher, Ros (England)	Jan 6
Foster, Karen K. (United States)	Oct 38
Glenn, Wendy J. (United States)	Jan 21
Hansen, Sally (New Zealand) <i>see Jorgensen, Lone Morris</i>	
Hejný, Milan (Czech Republic)	Apr 13
Hoffman, James V. (United States); Beretvas, Natasha; Pearson, P. David; Hugo, Cynthia; & Mathee, Bertus	Apr 27
Hugo, Cynthia (South Africa) <i>see Hoffman, James V.</i>	
Jorgensen, Lone Morris (New Zealand); & Hansen, Sally	Oct 5
Karapetyan, Marina (Armenia)	Oct 25
Kerimova, Bahar (Azerbaijan)	Apr 37
Koci, Hasime (Albania)	Jan 4
Lisenco, Serghei (Moldova)	Jul 44
Makarova, Yelena (Russia)	Jan 16
Manzo, Anthony (United States); & Manzo, Ula	Jul 34
Manzo, Ula (United States) <i>see Manzo, Anthony</i>	

Martens, Prisca (United States); & Arya, Poonam	Jul 23
Maslova, Marcela (Slovak Republic) <i>see Beed, Penny L.</i>	
Mathee, Bertus (South Africa) <i>see Hoffman, James V.</i>	
McDermott, J. Cynthia (United States)	Jan 4
McDonald, Trevor (New Zealand); & Thornley, Christina	Jul 7
Mirseitova, Sapargul (Kazakhstan) <i>see Ward, Angela</i>	
Miller, Sharon K. (United States)	Jan 27
Mitkova, Gabriela (Bulgaria)	Jul 5
Musina, Ruzania G. (Uzbekistan) <i>see Farberman, Boris L.</i>	
Newfield, Denise (South Africa) <i>see Stein, Pippa</i>	
Pearson, P. David (United States) <i>see Hoffman, James V.</i>	
Pranckenas, Donatas (Lithuania)	Jan 4
Sailors, Misty (United States)	Apr 34
Sandvold, Amy (United States) <i>see Beed, Penny L.</i>	
Scheepers, Rianna (South Africa)	Jul 30
Schwarz, Gretchen (United States)	Oct 17
Shtorlin, Valery (Ukraine)	Jan 4
Sidorova, Yekaterina (Russia)	Apr 44
Smith, H. Hilton (United States)	Jan 4
Stein, Pippa (South Africa); & Newfield, Denise	Jan 28
Thornley, Christina (New Zealand) <i>see McDonald, Trevor</i>	
Toliusiene, Laima (Lithuania)	Jul 5
Vacaretu, Ariana-Stanka (Romania)	Jan 4
Ward, Angela (Canada); Beach, Sara Ann; & Mirseitova, Sapargul	Jul 15
Ward, Geoff (Australia)	Jul 41

SUBJECTS

Assessment	Apr 37, Jul 23, Oct 5, 30
Bilingual education	Oct 25
Classroom strategies	Jan 38, Apr 42, 45, Jul 23, 34, 41, Oct 12, 47
Content area literacy	Apr 13, Jul 7, Oct 47
Critical literacy	Apr 27, 45, Jul 15, 30
Critical thinking	Jan 16, 27, 28, Apr 5, 13, Jul 44, Oct 12, 38
Home, school, community partnerships	Jan 4, Apr 20
Instructional technology	Jan 40, Apr 44
Motivation	Apr 20, 42, Jul 5, 34, Oct 17, 25, 38
Multi-language literacy	Apr 34, 44
New literacies	Jan 6, 28, Apr 5, Oct 17
Professional development	Jan 6, 21, 27, 38, 40, Apr 27, 34, 37, Jul 7, 15, 41, 44, Oct 30
Service learning	Jul 5
Social, cultural factors	Jan 4, 16
Teacher education	Oct 5
Writing	Jan 21, Jul 30

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