The motto of life is "Give and take." Everyone must be both a giver and a receiver. He who is not both is as a barren tree.

—Hasidic Writings (cited in Al Lengel's packet on the research paper for his sixth-grade students)

Just around the corner from Carin Hauser's third-grade classroom at Louise Archer School in Vienna, Virginia, is Al Lengel's sixth-grade classroom. Children who have been through her language-rich curriculum are not surprised when they enter his. But the adult visitor is slightly overwhelmed, at first glance, by the profusion of verbal riches. Student writing is on display everywhere: science projects, simulation games, collage/autobiographies, poems. On one wall a display titled "Wolf Talk" includes information on the drive to protect wolf species in the United States and typed poems by the children expressing their empathetic reflections on the issue. Another display, "Synchronology" (Lengel's version of the "Student of the Week" exhibit), contains photographs and commentary by Julie, this week's honoree. What makes the display a "synchronology" is Julie's time line of her life, along which she has listed important personal events and the important world and national events occurring during this same time span. Along another wall, Lengel has displayed collage/poems that the children have written and designed about loved ones, the collages containing photographs and illustrations of favorite articles.

I have visited Al Lengel's classroom many times before this December afternoon (my son Jeff was his student two years ago), so I have grown to expect the new ideas, projects, displays. I have also grown to expect the singular ambience of his classroom, appearing unstructured but actually highly organized and complex. For example, many of the students have been occupied this morning in the school auditorium, where they are rehearsing the class production of A Midsummer Night's Dream. Plays in Lengel's classes are semiannual events, with sometimes two plays, one Shakespearean and one modern, in production simultaneously. So on this occasion the classroom is fairly empty, except for seven children whom Lengel has gathered to answer my questions about their work. On other times I have visited, the class-
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room has been a welter of activity, the children at work in small clusters on any number of projects, from designing board games based on the novel Watership Down to comparing their opinion essays on current issues. On such occasions, Lengel is an all-purpose consultant, his desk the place to which individuals or groups come as questions or differences of opinion arise. Since the students have been for the most part well prepared for their tasks by Lengel's written instructions and whole-class discussions, the students largely direct themselves, so that Lengel can use much of this time to work with individuals on subjects or concepts with which they are having difficulty.

This complex organization depends on both the students' self-reliance and their mutual respect, as well as on the teacher's trust of his students, which is perhaps the most basic ingredient of Lengel's success. He assumes their ability to work independently and with one another on challenging, often complicated projects. This does not mean that the children don't need guidance. His handouts manifest his careful planning of the interactive steps of each project. But he does assume that his students will be able, after discussion of the handouts, to follow the instructions, ask questions when they get stuck, and work for the mutual good of the group.

Talking and writing are the feedback modes built into the system. Because, as the "Insect Identification" handout shown below exemplifies, Lengel sees student writing frequently, he can troubleshoot for both work teams and individuals. In addition, since the students know that they can ask procedural and content questions at any time and not fear his disapproval, he is not likely to miss a problem in group interaction or in conceptual understanding.

The subjects that he teaches, or, rather, that he wants his students to learn about, also show his respect for them. The students explore knowledge through exploring issues; e.g., endangered species, world population, computerization, environmental pollution, nuclear weapons. From the challenges he gives them and the methods he asks them to employ, students learn that knowledge is not an accumulation of textbook statements (although a textbook may be one source of information), but a multifaceted ability to gather data, sift among the pertinent and the unnecessary, compare interpretations, establish one's own point of view, defend that perspective, and change it as one's data grow. In Lengel's class, students' opinions are always respected: with so much emphasis on discussion and group work, it is clear that the students are expected to see one another as perhaps the most important resource of information and ideas. Nevertheless, as illustrated by the following sample handout, "Insect Investigation: A Survey," the exchange of opinions is augmented by handouts, textbook
Insect Investigation: A Survey

Name ___________________ Started _______ 

I. General Discussion
A. Discuss handouts: "Ten Common Insect Orders," etc. Know important information for quizzes and graded discussions.
B. Questions to answer (Science spiral)
   1. What is an insect? Name the distinguishing features or body parts.
   2. How is an insect different from other small animals? Choose a small animal and compare it with an insect, pointing out differences in needs, behavior, and characteristics. (Make a table or chart.)
   3. Describe the habitat of any common insect.
   4. What is the importance or value of insects? What are their relationships to plants and people? Do insects contribute anything of value to the planet Earth?

Due Date: 

II. Debate Resolution
Let us debate the following: In light of the expected sudden increase in population (the world population of 4.7 billion people will double by the year 2022), hunger and starvation may become widespread and common in your lifetime. In one way or another these problems will affect you. It is resolved that insects as a cheap and ready source of protein should be an important and staple part of the American diet, and it is further resolved that this trend should be established at an early age: school lunches will include toasted ants, fried grasshoppers, and chocolate-covered crickets. All treats like candy bars and ice cream will be composed of nuts and small, toasted, crunchy insects. School lunches will be purchased by every child in the school.

A. Decide which side you wish to argue (affirmative or negative).
B. Informal debate session.
C. C.P.S. groups and follow-up discussions (graded).

III. Important Science Text Pages to Read
B. Be sure to read all pages as there will be quizzes and chapter tests. We will read selections together and discuss important parts.
C. "Insect of the Future" three-person artwork.

IV. Written and Oral Report
A. Using materials and books from the school library and the Vienna Public Library, choose an insect order which interests you and prepare a general report on this particular order. Emphasize the common characteristics of the insects in this particular order.
B. In the second part of your report, choose one specific example of insect within the order about which you have written and report on
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the insect example in detail. This is the main part of your report. Include:

1. Appearance
2. Range
3. Habits and reproduction
4. Metamorphosis type
5. Food
6. Item of interest
7. Illustration(s) labeled
8. Folder, title page, bibliography
9. Minimum of 3 pages
10. Brief oral presentation

C. Finally, make a short one-page report on a spider or arachnid of your choice.

Due Date: _____

It is impossible to conceive of the children's developing this complex, "adult" understanding of knowledge without the rich language interactions Lengel organizes. The interactions—the debate, for example—also ensure that what the students learn will be remembered, because they will have had to use this information and make it their own in order to substantiate the viewpoints they have chosen. Moreover, since the debate is a competitive structure requiring response as well as exposition, the students are called on to listen intently to and to understand the arguments of their opponents in order to contest these arguments.

One reason why competition can succeed in this environment without endangering the community of the class is that there are also many noncompetitive, mutually supportive activities. In addition, the children get frequent practice with a modified debate format that Lengel has named "Opinion/Commentary." This assignment exposes the children to reasonable criticism of their ideas. Each week, Lengel announces an issue in the news as the subject for individual three-paragraph essays. He also gives each student the name of a partner with whom he or she will swap essays, so that each may write a paragraph or two of commentary on the other's work. In the course of a year, each child will have compared points of view and evidence on many issues with most members of the class. Lengel grades both the essays and the commentaries for the completeness and accuracy of the information. He also judges them on tone, having admonished the commentators to be "specific and polite."

In such an environment, it's no wonder that the children can talk easily and knowledgeably to an outsider about how and what they learn. The seven members of the class whom I question on this visit
excitedly describe the two research projects they have completed since September. The first, which extended over two months and included some twenty steps, allowed the students to write on any topic, the main stipulation being that they wanted "to learn about [the subject] in great depth," as Lengel wrote in his printed guidelines. The projects took students to many different sources for information and, since this was an extensive assignment, required them to learn principles of organization and record keeping that most children don't encounter until high school. With a logical set of subtasks and frequent submissions, Lengel could keep the students on schedule and measure their progress. In keeping with his emphasis on interaction, this progress depended on a good deal of feedback from others, including fellow students and parents.

The topics of the children with whom I speak show great variety, evidence of Lengel's encouragement of individuality. The students name Pompeii, Thomas Jefferson, the elements of the periodic table, long-distance running, the moose, tigers, and the effect of diet on the risk of heart attack as their subjects—writing that truly spans the curriculum. Since the projects were interactive, with the students helping each other generate questions to investigate, commenting on rough drafts, and proofreading final copies, the writing process meant hearing about and discussing many topics in many fields other than that which each had chosen. The process and the results of such a project seem not unlike those enacted and achieved by Mary Schuman's first graders, though at an appropriately higher level of sophistication.

The children speak without puzzlement and with great enthusiasm about the effects of this method. Kim comments, "When we talk about our projects, we give each other new ideas." Charles continues, "When I hear someone else's ideas, I suddenly understand some ideas that have been floating around in my own brain."

The second projects that the students discuss were more restricted in focus, but demanded a variation in approach that would tap still other creative resources. In Part I of the project, each child was to choose a different animal on the threatened or endangered species lists. Maria, for example, chose the emperor penguin; Ashley chose the sea otter. The students, with help from their classmates, generated short lists of questions, and then they reported the answers to the class. Part II of the project called on each student to imagine a mythical creature that had developed characteristics that would prevent its extinction. The children described and pictured these creatures, explained the threats to their existence, and described the crucial adaptations. As works of fantasy, these projects exercised the students'
ability to hypothesize natural or technological solutions to environmental problems, solutions that would require the students to understand the problems. The children speak with obvious pride about their fantastic creatures, on which they had lavished intriguing names: Will's Dimension Beast, Julie's Sir Nicholas, Kim's Fairy-in-a-Flower, Charles's Cifus, and Ashley's Tricker.

This project exemplifies the mingling of the imaginative and the observed, of the reflective and the recorded, that occurs in so much of the work of Lengel's students. The children are respected for their opinions and for their ability to find and express information; they are also respected for their creativity and for their feelings. Poems about wolves, position papers on insect snacks, hypotheses of "Dimension Beasts"—each implies learning that is part of the child, because he or she has exercised the full range of mind—cognitive, analytical, and emotional. When one considers the further dimension added to this growth by the linguistic, social, and emotional challenges of play performance, then the application of language across the curriculum can truly be called comprehensive.

What do the students say about this approach to teaching? Reflecting back on his sixth-grade experience, Jeff analyzed what this comprehensive language-across-the-curriculum approach meant to him:

Mr. Lengel didn't constantly assign worksheets and sections of the textbook, as most teachers do. He was very creative in presenting information. He made games that were tools to learn, but games that were constructed in such a way that they were very enjoyable to play—not school exercises that were merely called games.

But, even more important, Mr. Lengel gave us freedom. He gave us the sense that we had some power to help ourselves learn and to have what amounted to a good time. He made us feel very free to ask help in anything and free to express our individuality.

Surprisingly, only on very rare occasions did anyone abuse these privileges. The reason for this, I think, is that the kids didn't feel boxed in and so didn't need to "break loose" by doing something reckless.

The freedom he gave us made us feel more confident and sure of ourselves. I can't remember one time that year that I didn't want to go to school.

Al Lengel Comments on His Teaching:
Relying on a Thematic Approach

I've been asked to describe how I manage to provide a creative classroom within the confines imposed by our Program of Studies, a comprehensive county program containing a fully articulated set of
goals and objectives for each subject area in all grades, K-12. Actually, I've never felt confined by the so-called "restrictions" of this program. In fact, for me, the program provides a sufficiently reliable structure to which the muscle of a language-dominated program adheres. The strategies and techniques could hardly flex without the framework.

Essentially, however, I don't interpret the program as separating the subjects and objectives into discrete blocks of time. I never consider blocks of time as appropriate to teaching a subject. All the areas are language-directed and require an expansion or differentiation within them. Can social studies be separated from reading, speech, and writing? Rather, they are all woven with an obligation to sense, application, and concept building—never to mere minutes.

I rely, therefore, on a thematic approach. A theme provides the impetus when beginning a unit of study. Most themes endure in variation throughout all my units and intercede like motifs awaiting validity as the child's growing experience and perspective light them anew.

One such theme is change. Consider change as a theme, or cog, from which numerous realizations stem. Change has movement and dimension—easily perceived through a ten year old's experience and ability. Within this emphasis on change, my intent is clear: change is continual and inevitable. I hope that this is increasingly obvious or real to the child, whereupon the child can discipline himself or herself to understand change, can deal with it creatively, and can even predict change and its inferences.

A unit centering on flight, for example, explores our early, present, and projected associations with flight and investigates the concept in the natural world as well. Content is treated, knowledge is accumulated, and understanding is broadened because the theme stretches across the curriculum and binds the disciplines. The child grasps the sense of change in its ubiquity. The child observes the influence of change and identifies the elusive indicators that suggest imminent change.

I can develop the theme of change whether the class is discussing the dissolution of the Union and the Civil War, or if we are examining the uses and reporting of statistics in various time periods, or as we follow the awesome disintegration of the character of Macbeth.

Another of my favorite themes is relationships. One considers values in the society through the mirror of relationships. This theme is developed during class discussions about characters, plot, and associations in books like Watership Down by Richard Adams and A Separate Peace by John Knowles.
Fragmentation distorts the school day—chorus, strings, band, and computers merely head the list of interruptions or separations. Therefore, having blocks of time relegated to specific subject areas is an idea wholly impractical. The theme unifies the curriculum.

For example, a class discussion of recent Supreme Court decisions dealing with "search" in the school environment and its implications in regard to the Fourth Amendment to the Constitution becomes a blend of social studies and humanities study, as well as an opportunity to build on the process of writing from its brainstorming stage to the final tract.

Formal debating is another exciting and deeply involving speech extension of a current and relevant topic. Debating as a communication model is a lively facilitator of concept building and language proficiency.

One final note in this brief characterization: it is my belief that children essentially need confirming. Each and every child must be supported and confirmed in the validity of his or her point of view. With the example set, children release their own power to confirm their peers in turn.