DOCUMENT RESUME

ED 304 263 RC 016 978

AUTHOR Galton, Linda L.
TITLE Thinking Skills, K-6: Small and Rural Schools. Outstanding Teaching Practices Series.
INSTITUTION Regional Laboratory for Educational Improvement of the Northeast & Islands, Andover, MA.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE 88
CONTRACT 400-86-0005
NOTE 31p.
AVAILABLE FROM The Regional Laboratory for Educational Improvement of the Northeast & Islands, 290 South Main Street, Andover, MA 01810 ($4.50 plus $2.50 postage/handling, cite order number 9050-09).
PUB TYPE Reports - Descriptive (141) -- Reports - Evaluative/Feasibility (142)

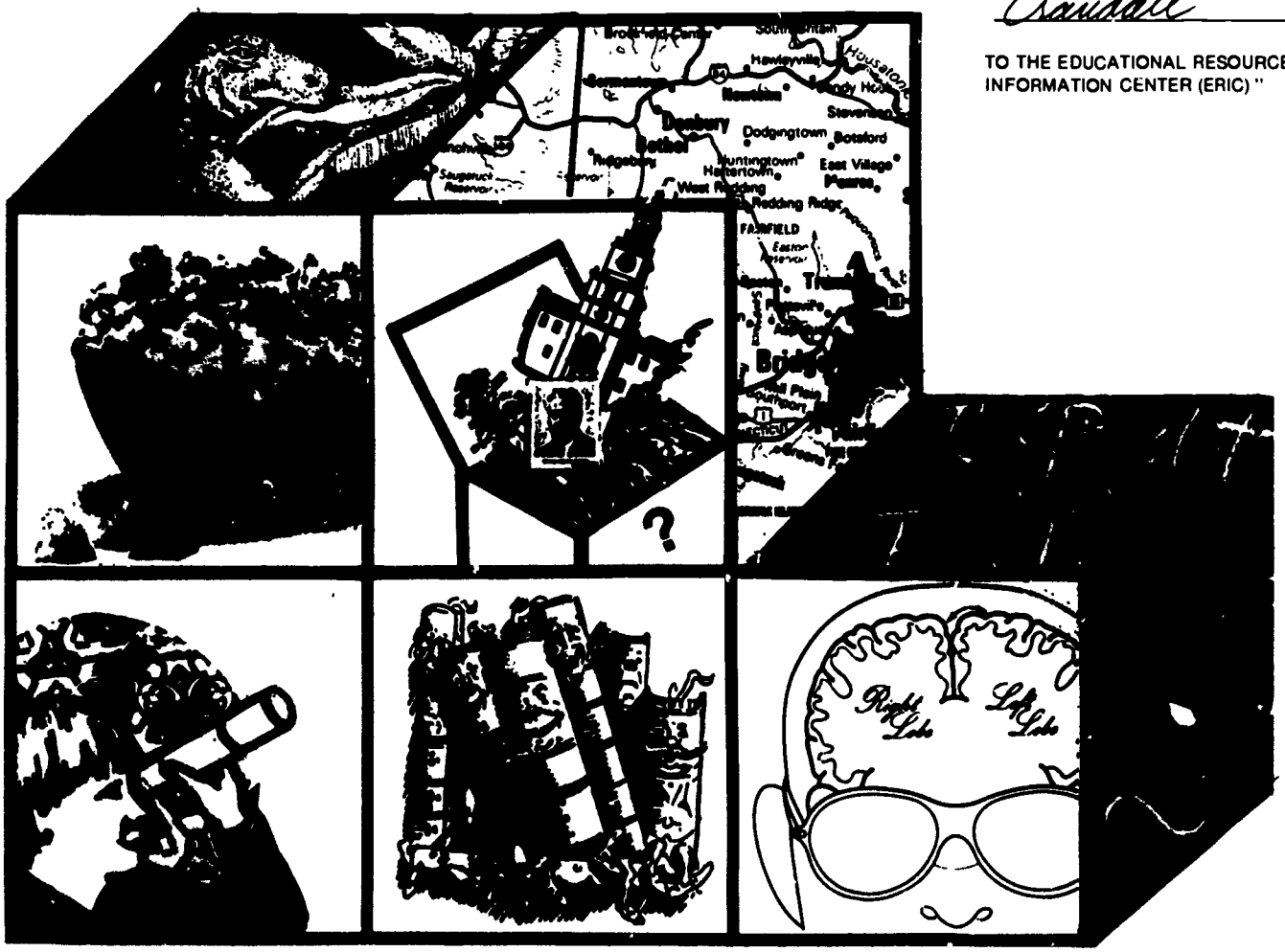
EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Cognitive Structures; Elementary Education; Elementary School Curriculum; *Elementary School Teachers; Profiles; *Rural Schools; *Small Schools; Teacher Background; *Teacher Effectiveness; Teaching Experience; Teaching Styles
IDENTIFIERS *Thinking Skills

ABSTRACT

This booklet profiles five elementary school teachers who were selected as the 1988-89 Laboratory Fellows by the Regional Laboratory for Educational Improvement of the Northeast and Islands. The Teacher Recognition Program conducted through the Small Schools Network of the Laboratory seeks to recognize outstanding teachers of thinking and reasoning skills in K-6 small and rural schools. The profiles of the teachers include their educational training, experiences, philosophies, and a discussion of the ways thinking and reasoning skills are incorporated into their individual elementary programs. (ALL)

Outstanding Teaching Practices Series

THINKING SKILLS, K-6
Small and Rural Schools



A project of the Small Schools Network

The Regional Laboratory
for Educational Improvement of the Northeast & Islands

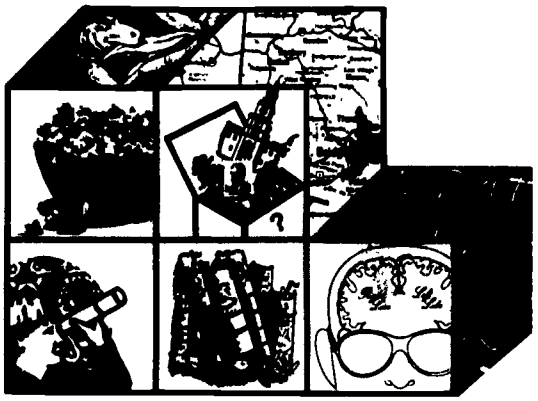
Outstanding Teaching Practices Series

THINKING SKILLS, K-6
Small and Rural Schools

1988-1989 Laboratory Fellows
Teacher Recognition Program
A Project of the Small Schools Network

Linda L. Galton
1988

The Regional Laboratory
for Educational Improvement
of the Northeast and Islands
290 South Main Street
Andover, MA 01810
508/470-0098



Editor: Janet Angelis

Cover design: Christine Bobeck

Published by

The Regional Laboratory for Educational Improvement of the Northeast and Islands
290 South Main Street
Andover, MA 01810
508/470-0098

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement, U.S. Department of Education, under contract number 400-86-0005. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

Table of Contents

It seems to me that in our context the great teaching art must prove to be the art of combination. We must learn better to instruct children, when, after absorption in subject matter, they communicate by their behavior those directions which they are prepared to find meaningful because they themselves have begun to define and seek them. And then there is the opposite transition, when formal instruction has brought children to new levels of understanding and interpretation: to open again the door to less directed probing and testing at these new levels -- and thus to consolidate what has been learned, to use it for further learning.

There are certainly some superbly resourceful teachers among us who practice and understand this art, although perhaps they are not articulate about it in the context of educational discourse. Can we identify them, we who want to know the art better? And can we go and watch, and thus learn? And can we, after watching, begin to help them with the provisioning, with plants and animals and laboratory equipment -- and ideas! Can we then find ways to resonate, to amplify, to strengthen the apprenticeship of other teachers? The job is not easy on any scale.

-- David Hawkins
The Informed Vision: Essays on Learning and Human Nature (16-17)

Introduction

In March 1988 The Regional Laboratory for Educational Improvement of the Northeast and Islands initiated a Teacher Recognition Program to honor teachers in small and rural schools. This program, conducted through The Laboratory's Small Schools Network, sought nominations for outstanding teachers of thinking and reasoning skills in K-6 small and rural schools.

The five teachers whose profiles follow are the recipients of $500 honoraria and the title of 1988-89 Laboratory Fellow. They were nominated on the basis of letters submitted on their behalf by central office and building level administrators, other teachers, or members of educational organizations. Each nominee then submitted to the Selection Committee a 'portfolio of achievement' that spoke to his or her educational background and philosophy, goals, and programs or projects. Selections were made based on the contents of those portfolios, which have been excerpted and appear here with each Laboratory Fellow's profile.

This booklet, then, is dedicated to these teachers and others like them whose elegance and grace perpetuate the greatness that is found in many small and rural schools.

L.L.G.

An Overview and Some Common Attributes

In reviewing the portfolios submitted by the nominees under consideration for the 1988-1989 Teacher Recognition awards, the Selection Committee was impressed, first, with the fine quality of the submissions. The committee also noted that while the portfolios represent a wide range of teaching experiences and ways of approaching the teaching of thinking and reasoning skills, several common threads emerge from the five portfolios chosen for $500 enrichment awards.

Taken together, these common attributes can provide one lens for examining the portfolios included in this booklet. They can also serve as guidelines or points of departure for administrators and teachers as they discuss existing programs and explore ways of enriching their staff development experiences as well as motivating new and experienced staff members.

But, while a summary of the kind that follows may serve as a guide to reading the portfolios, it should not replace the voices of those who present their own programs. Therefore, this distillation serves only as a preface to the individual portfolios, letting those who speak best relate their own stories.

14. See themselves -- and therefore their students -- as part of a larger world where each individual has the responsibility to build a better world.

Taken together, these attributes portray teachers who exemplify effective teaching. The following pages contain excerpts of the portfolios submitted by the Laboratory Fellows for the 1988-89 Teacher Recognition Program. Each selection includes the teacher's educational training and experience, her educational philosophy, and a discussion of the ways that each individual incorporates the teaching of thinking and reasoning skills into her elementary program.

14. See themselves -- and therefore their students -- as part of a larger world where each individual has the responsibility to build a better world.

Taken together, these attributes portray teachers who exemplify effective teaching. The following pages contain excerpts of the portfolios submitted by the Laboratory Fellows for the 1988-89 Teacher Recognition Program. Each selection includes the teacher's educational training and experience, her educational philosophy, and a discussion of the ways that each individual incorporates the teaching of thinking and reasoning skills into her elementary program.

JUNE BOND

Teacher, Gifted, Talented, and Enrichment
Mount Morris Central School
Mount Morris, New York

Nominator: David M. Saffer
Elementary Principal

School Enrollment: 410 students

District Enrollment: 725 (K-12)

In his letter of nomination, Principal David Saffer reports that, prior to Ms. Bond's employment two years ago, no program for the gifted and talented and educational enrichment existed at Mount Morris Elementary. Ms. Bond was entirely responsible for developing and implementing the program in grades K-6. Kaleidoscope, the name given to Ms. Bond's thinking and reasoning skills program by students, is based on the Renzulli format of progressively higher level thinking activities. She is also coach of the Odyssey of the Mind (OM) team, a special inter-school academic, creative competition.

Mr. Saffer stressed that establishing the gifted, talented and enrichment program has not been Ms. Bond's only accomplishment. In her brief time at Mount Morris Elementary, she has also:

- *developed a program of **compacting**, whereby both time and curriculum schedules of gifted and talented students are coordinated between the Kaleidoscope program and regular classroom activities;*
- *formed a team of parents, teachers, and administrators for the development of long-range planning for such programs as **Junior Great Books, Talents Unlimited Art Series**, and **Visiting Artist**;*
- *outlined future long-range district goals for the gifted, talented and enrichment programs and developed plans for **teacher training activities** in these areas.*

June Bond's training is in English, arts, and physical education, with degrees from Shippensburg University in Pennsylvania and the University of Connecticut.

She believes that in order to affect students, a teacher must involve parents, the classroom, and the community. She also believes that the "goal of all educators should be to motivate students into a lifestyle of education." Furthermore, "It is not until we train students in thinking and reasoning skills to synthesize and evaluate that the educational process truly becomes a challenge to enjoy watching and doing!"

Perhaps, though, the best testimony to Ms. Bond's accomplishments is evident from the following portfolio, which she submitted for consideration to the Teacher Recognition Program:

PROGRAM DESCRIPTION

Mount Morris Central School began a program for schoolwide enrichment for gifted and talented students in the Fall of 1986. I was the full-time teacher hired and trained in the Renzulli Triad Model for gifted and talented.

The model provides for three types of experiences. These are identified as Type I, Type II, and Type III. These are made available to "Talent Pool" students identified for the gifted program. Type I involves presentations by resource personnel from the community or in special fields of interest. Type II experiences are skill classes. Type III gives opportunities for students to take the knowledge and skills learned by the first two experiences and begin to work on a project independently in depth in an interest area.

Mount Morris Central School is a small school district so the model has been expanded and developed to provide for a schoolwide enrichment program. The population of the school is approximately 680. The town population is approximately 4,000. The framework of the Renzulli Triad Model has been extended schoolwide for K-6, and special enrichment opportunities are coordinated for 7-12 also.

In the beginning of the year a student survey is taken to target areas of high interest as well as those of low interest. Also, a survey is taken of the community and local colleges in the area to determine resource personnel with special interest areas. Teachers then match up interest areas (both high and low) with curriculum areas during the year and request an enrichment experience be set up for the class. Parent committees assist by setting up the actual presentations.

Teachers and professional staff, as well as parents, then identify students who would like to go further in that enrichment area by learning more skills (a Type II experience in the classroom or in the resource room) or by actually producing something in that area (a Type III experience).

For a small community, this type of curriculum enrichment is a stimulus for growth and excellence throughout the school and community.

EVIDENCE OF SUCCESS

1. Results of the community and school surveys indicate that the new schoolwide enrichment program is one of the most highly regarded programs in our school.

2. Teachers have reported that several students' classwork has dramatically improved since they became involved in the program.

3. The enrichment program gives students who are ordinarily unsuccessful in school opportunities to excel in areas of talent and interest not touched upon with regular curriculum.

Examples:

- Six 4th and 5th graders who organized, learned business skills, and raised funds to build a go-cart together;
- A 2nd grade student interested in dinosaurs who developed a special study and created a dinosaur replica with cooperation of teachers and community resource people;
- Students interested in drama, dance or music who were selected to spend special time with an actress, and then encouraged to learn greater skills which led to a performance.

METHODS OF MOTIVATION

Techniques in Use

1. Find out what "turns a student on . . ." What are his or her special interests? Tnen use that knowledge to incorporate learning. This is done through formal surveys, student activated forms, enrichment experiences and keeping eyes, telephone, and office open.

   (One example of this technique involves a student who was not experiencing success in school. He got "turned on" and called me. We arranged a community mentor, materials, and a workplace to help fulfill his dream of designing a car.)

2. Each child is special. Each child excels in some way. Motivate by building self esteem. Provide opportunities for parents and students to share their pride in achievement, no matter how small.

3. Motivate students by rewarding them for their work in the area of their special interest, whether that be in the arts or in academics.

4. Motivate by caring and demonstrating confidence in students. Say early and often, "Don't limit yourself . . . let's find a way to make your dream come true. It's possible!"

5. Motivate by entertaining.

6. Motivate by opening their worlds to enrichment experiences outside and inside the classroom.

7. Motivate by involving students. For an example, as an introduction to Creative Problem Solving (CPS), I tied the class up in rope, string, tape etc., and then I asked them to help me get them out of the "MESS" (CPS term for problem) using CPS techniques.

Thinking and Reasoning Skills Taught

1. Scamper - Creativity skills
2. Creative problem solving (CPS)
3. Math: logic & tangrams
4. Future problem solving
5. Visual interpretation and perception (Teacher-developed enrichment activities with higher order thinking skills)
6. Storytelling and problem solving

PATRICIA N. CARLET

Teacher, Library Science (K-8)
Edgartown School
Edgartown, Massachusetts

Nominator: Edward Jerome
Principal

School Enrollment: 310 students

District Enrollment: 310 students

"Patricia's library program reflects the woman she is: dynamic, knowledgeable, compassionate and devoted I feel very fortunate to have her as our school librarian, a colleague and friend," volunteers a fellow teacher at Edgartown School. Her colleague's comments reflect the sentiments of those who work daily with Ms. Carlet.

In addition to working closely with individual classroom teachers to provide them with appropriate literature for their various units or for dealing with life situations such as divorce and death, Ms. Carlet conspires to involve everyone in her love of the written word. Her book parades, where each student and teacher dresses as a storybook character, have become cherished yearly events. The United Nations Day held each year at Edgartown School is also masterminded by Ms. Carlet.

In short, her commitment to, love of, and talent for teaching is irrepressible. Principal and nominator Edward Jerome writes that "she is truly a fine educator who always puts children first. She is a fireball of energy and it is always directed at improving the quality of life within our building."

An English and art history major, Patricia Carlet was inspired to try teaching during her senior year at the University of Connecticut. Two decades and a variety of teaching and support positions later, she earned her Master of Education at Lesley College, Cambridge, Massachusetts

Her educational philosophy is best stated by the familiar "Declaration of the Rights of the Child" adopted by the United Nations in 1959.

The following excerpt from Ms. Carlet's portfolio elaborates on the programs above as well as explains more about her educational philosophy:

PROGRAMS AND METHODS

Library-Related Activities

Initially there was no librarian or library science program at the Edgartown School, and the entire book collection was housed in a small space adjoining a junior high classroom. Several years ago I was given the job of developing the collection and establishing a library science program. That I have been able to accomplish this task is due in no small part to the consistent encouragement, support and commitment of the Edgartown School staff and our principal, Mr. Jerome.

Just about everything in the library focuses around developing a knowledge of and compassion for oneself, the world, and the world community. There is a continual attempt to focus on books and materials that have relevance in the child's world, and as the librarian I consistently try to suggest or introduce issues and materials that students can relate to in terms of their own lives and circumstances.

I question students in order to better understand what kinds of books and issues "turn them on," and I consistently emphasize the importance of learning to read, always attempting to do so within the context of student needs.

Every November we have a **Book Fair** and the **Book Character Parade**; on the day of the parade students and teachers dress as characters from favorite books and march through the school halls, led by our principal, the parade marshall. In the spring the school sponsors the **BBBS** (Brown Bag Book Swap), and students and staff bring brown paper bags filled with books to trade. And every child in our school receives a Birthday Book, chosen by the library and presented to each student by the principal on his or her birthday.

For the past nine years art teacher Mary Hunter and I have required every eighth grader to write, illustrate and bind a children's book. Guest authors and illustrators visit the library and discuss their work with students, and special workshops are conducted so that students can learn correct binding procedures. The project takes most of an academic year, but the results are impressive. Students' books have been the subject of newspaper articles and have been on display in island libraries and bookstores.

The library tries to offer both students and faculty the very best in children's literature, introducing it through displays, booktalks, films and filmstrips, using any media that promotes and encourages reading for information and pleasure.

At different grade levels students learn specific skills; they learn how to locate and use toll free numbers of corporations in order to commend or complain about products and services; they learn how to find the addresses of foreign embassies in order to write for information about countries they might someday want to visit or just know more about; and they learn to use other resource materials in the library to write their favorite authors, to locate information about purchasing a new bike or a pair of sneakers, or to get a picture of a favorite basketball or football team.

When students come to me with questions or requests for particular materials, I pattern the dialogue so that they can usually arrive at answers for themselves. I listen, encourage, question and listen again. The dialogue is sometimes brief and sometimes lengthy, but in most instances students are able to answer their own questions.

I have contact with every student in our school at least once a week, and in the library program our children begin to learn, from day one in kindergarten, how to cope with an information society, and how to better understand themselves and the world community.

Faculty Programs

In my program I also make frequent and enthusiastic forays into the world of faculty and staff members, writing memos, visiting classrooms, talking with the staff whenever possible in order to determine how I can help them obtain resources and materials to supplement their curriculum.

Teachers and students get involved in a voluntary teacher exchange day in April. Faculty members draw assignments from a hat in a program designed to get them "into another's shoes for a day." The art teacher teaches math, the music teacher runs the library program, the kindergarten teacher draws third grade and the reading coordinator finds himself in the home economics room.

Students get to see their teachers in different roles, and often find themselves acting in supportive roles as they help the math teacher flounder through music classes or guide the art teacher through a basic lesson in algebra.

I also volunteered to keep the coffee and tea pots going in the library; this was done in order to assure that even the most reluctant or timid staff member sets foot in the library at least once a day.

Focal Point of Program

In terms of specifics, the United Nations Day Assembly represents one of the focal points of my program. Several years ago I surveyed all of the students and faculty to determine everyone's ethnic background. Then the Home Economics teacher helped junior high students sew flags representing each and every country indicated in the survey. These flags -- over thirty in all -- are kept in the library, and every October 24th an all school assembly commemorating the United Nations is held at the Edgartown School. The community is invited and a local dignitary is asked to speak about the United Nations and then raise the United Nations Flag. Children, staff and everyone present joins in reciting the United Nations Declaration of The Rights of The Child, and eighth grade students carry the flags that represent all of our ethnic origins. Later staff members share an international pot luck lunch.

MOTIVATION FOR APPROACH

In a sense I feel that teaching is somewhat like the advertising industry. The product we're selling is knowledge; the clientele, our students. Our job is to make them want knowledge in much the same way that automobile manufacturers make us want an automobile... and then we must show students how to go about getting that knowledge, again in much the same way that the manufacturer shows us how to go about purchasing the car they've advertised.

To carry the metaphor a bit further, we educators must also realize that at some point we will have to change or modify or even scrap programs as the needs of our students (clientele) change, again in much the same way that advertisers change or modify or scrap ad campaigns.

We live in an information society, a world where, according to Alvin Toffler's Future Shock, the body of knowledge doubles every eight years, and we understand that we can no longer teach the old curriculum; there is just too much information out there. So our task as educators is to determine what we teach our students so that they will be able to locate for themselves the information necessary for their survival.

And finally, we must encourage and develop in every student a keen and unrelenting thirst for that knowledge.

MARTHA L. DUBUQUE

Teacher, Grade 6
Hardwick Elementary School
Hardwick, Vermont

Nominator: Robert Pequignot
Principal

School Enrollment: 344 students

District Enrollment: 1248 (K-12)

Nominator Robert Pequignot describes Martha Dubuque's classroom as having an "aura [that] is orderly, safe and purposeful," one that has "clearly defined expectations which support our school missions." Ms. Dubuque's teaching talents, he says, stand out even in a school that has been nationally recognized for excellence.

Certainly Ms. Dubuque's accomplishments as a teacher of thinking and reasoning skills would reinforce that view:

- *Her **Learning Styles Unit** guides students to heightened self-awareness concerning their particular learning styles and to appropriate goal setting based on those styles. The unit culminates in every sixth grader compiling a Thinking-Reasoning-Studying Handbook.*

- *Ms. Dubuque's **Career Awareness Unit** prepares her sixth grade students for the junior high setting by challenging them to consider their particular characteristics, strengths, and likes in relation to a career choice. She used the AGS Career-Decision-Making System to teach and develop reasoning skills specifically related to careers. The final "event" of her unit is a series of talks by individuals in various career fields.*

- *Her daily teaching reflects Ms. Dubuque's use of an **integrated model** for emphasizing higher order thinking skills. The model, which she created based on two years of research, is a melding of elements of 4Mat, Outcomes-Based, Right and Left Brain Modalities, Letteri's Cognition, and Bloom's Taxonomy Models. She feels that her model ensures that her students are taught to think critically on a consistent and continual basis.*

- *Finally, as a writer, Ms. Dubuque has authored **twelve units** dealing with thinking and reasoning skills at the analysis, synthesis, and evaluation levels; and she is frequently asked to give workshops based on her expertise.*

Since earning her Bachelors degree at Johnson State College, Johnson, Vermont, Martha Dubuque has taught in three Vermont elementary schools, during which time she has also earned a Master's degree from Johnson State.

As for her philosophy, in her own words, "I design my instructional program to help students become self-directed learners." Because she believes that thinking and reasoning skills are essential to wise decision making, she teaches those skills in the context of learning experiences rather than in isolation. "The method of reaching the answer must be as important as the answer itself," says Ms. Dubuque.

In short, Martha Dubuque infuses her complete teaching repertoire with the principles of critical thinking. Her portfolio, which follows, further describes her teaching philosophy:

My Program

On a day to day basis in my sixth grade classroom, I identify the thinking process students are using; I model and give direct instruction in that skill; as a class we generalize it to other situations where it would work; we talk about why we are using the process; we brainstorm strategies to use if students get stuck during the process; students learn ways to self-monitor and self- assess their level of progress and mastery; I give students efficient retrieval cues for the process; and we do linkages and associations to help students make the connections and transfers (between past, present, and future learning and between in-classroom and outside-school areas) that are so vital. An integral part of my instructional program is modeling and having students practice planning, problem solving, and study strategies. This is ongoing with all instruction of content, information, and procedures so that students can perceive and practice learning as the interrelated process it is and can truly become self-directed learners.

Three Specific Projects

I. Learning Styles and Career Awareness Unit

a. acquire specific strategies to self-monitor and self- assess his or her learning needs, habits, and progress;

b. participate in self-questioning, goal setting, and discussion for purposes of growth;

c. distinguish between situations of right and left brain dominance and become more capable whole brain learners;

d. understand the four main learning styles and identify which learner s/he is;

e. develop specific thinking-reasoning-studying strategies to increase learning success in all four areas;

f. apply the new information acquired about learning styles to the area of career choice;

g. consider tendencies, strengths, and likes in career choice;

h. gain detailed knowledge of as many careers as possible.

The format of this unit uses teacher presentation, individual decision making, and small and large group discussion. I have developed a student packet called **About Me** in which students assess and share their characteristics, strengths, tendencies, and likes. We then move to work on right-left brain dominance, where the teacher presentation is designed to have students use thinking skills to compare and contrast, draw conclusions, and support hypotheses with proof. Students apply research on right-left brain dominance to life itself by brainstorming classroom assignments and out of school activities reflecting right-left brain characteristics and to themselves personally by assessing their own strengths.

The next area of focus is the four major learning styles as identified by Bernice McCarthy. Students learn about all four styles, assess their own styles, and again relate this knowledge to classroom assignments and out of school activities. A wonderful part of the unit is the development by students of a **Thinking-Reasoning-Studying Handbook** detailing strategies for success and approaches to studying for each of the four learning style areas that they take with them to the junior high school.

Students then consider their learning styles in relation to career choice. Each student completes the American Guidance Service **Career Decision Making System** and teacher presentation goals. The unit closes with detailed presentations by several professionals on their careers. Students summarize each presentation, analyze the career, relate it to others, and evaluate its appropriateness for themselves personally.

II. The Integrated Model

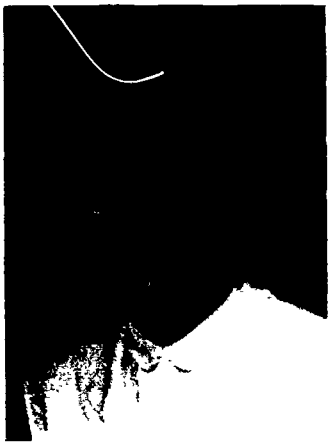
I have developed and used in my daily teaching an Integrated Model emphasizing critical thinking skills. For the last two years I have done considerable research on Outcomes-Based Instruction, Effective Schools, Metacognitive Strategies, and Learning Styles. I have designed a comprehensive but manageable format for the instructional process integrating the components of the Outcomes-Based Instructional Model, the Right and Left Brain Modalities Model, Charles Letteri's Cognition Model, Benjamin Bloom's Taxonomy Model, and Bernice McCarthy's 4Mat Model.

This integrated model reflects my opinion that education must be viewed as the summation of many research pieces with the capacity to embrace future pertinent research. I use this format in both my unit planning and my daily planning to insure that students are: a) provided formal instruction in thinking skills and study strategies; b) expected to use thinking skills; c) involved in critical thinking activities at several points during the instructional process; d) taught ways to apply and generalize both learning content and processes; and e) led to interrelate past, present, and future learning.

III. Thinking and Reasoning Skills Units

I have written twelve units dealing specifically with thinking and reasoning skills at the analysis, synthesis, and evaluation levels. The units are written in the outcomes-based instructional format. I spend a two-month period doing direct instruction in thinking and reasoning skills -- in how, when, and why to use the processes -- tying them to both multicontent and outside-school areas.

KATHLEEN MARINO



Teacher, Grade 1
Beecher Road School
Woodbridge, Connecticut

Nominator: Marie Oddi
Principal

School Enrollment: 670 students

District Size: 670 (K-8)

Kathleen Marino's inventiveness is apparent in the activity that was described as characteristic of her work in Principal Oddi's letter of nomination. Ms. Marino used the 100th day of school as an opportunity to study the concept of the numeral one hundred with her first graders. Ms. Oddi relates:

> *The day was filled with activities which caused the children to estimate, predict, record, draw conclusions, compare and use other thinking skills. Some of the activities included: estimating the number of objects in each of several jars to determine which jar had exactly 100 objects in it; predicting if one hundred kernels of popcorn popped in a frying pan would be enough to serve the whole class. Later they tested their hypothesis and drew a conclusion; each student created a collage with one hundred objects. In order to fit all of their objects on the limited space, they had to carefully plan the most efficient use of the space, which might have required layering the object or building up and out.*

As an undergraduate student at Michigan State University, Kathleen Marino was involved in an alternative elementary teacher training program that emphasized classroom experience and the training of teachers to have multiple perspectives on their role as educators. After two years in the Fairfax (VA) public schools, Ms. Marino brought her talents to Connecticut, where she gives her students opportunities to develop creative problem-solving techniques and to expand their decision-making powers. She believes that "children can become responsible, actively involved learners in an environment that values and fosters the individuality of each person's thought process."

Kathleen Marino's teaching experience, though comparatively brief, demonstrates her ability to challenge and motivate her students, while simultaneously grounding her activities in sound thinking strategies. She loves what she does and it shows -- her classroom, her students, and her enthusiasm for her craft all reflect her true enjoyment with her work.

Ms. Marino's portfolio relates more complete information regarding her background and philosophy:

PROGRAM

The program I have developed creates a classroom environment which uses a variety of techniques. One of these techniques is to plan and implement five learning centers each week with projects that require a range of thinking skills. While I am working with a reading/writing group for direct instruction, other students are paired at a center. Students work in pairs to support the belief that all of us bring knowledge and creativity to a situation.

When planning the centers I integrate content and skills from different subject areas. The projects are varied to maintain interest and to provide many levels of learning and thinking. To encourage higher level thinking I typically leave the projects open-ended. An example of this would be the Indian Village created by the students last fall during our study of Pilgrims and Indians. The center was equipped with material that students could use to create an Indian village. They used the knowledge they had gained from pictures, stories, discussions, etc., to build a model village.

I also use the learning center approach to encourage students to appreciate fine literature. During a study of a particular children's author, center projects often revolve around that author's work. Students fell in love with the fun and magical style of Shel Silverstein during the author study and later went to a center to experiment with a similar approach themselves. Black ink pens and blank white-page booklets were provided to give students an opportunity to try some black-on-white drawings and write some original poems.

In the learning center approach, I provide guidance by initiating the basis for projects so that the task does not seem overwhelming. Each student leaps from that point to his or her own level of capability.

In teaching content area lessons to the whole class, I use motivational approaches and topics which are of interest to the children. Each student can be guided beyond the knowledge level of thinking to the evaluation level. An example of this approach was used in our class study of dinosaurs. We began with a field trip to the Peabody Museum where we observed murals, displays, and fossils of dinosaurs. Books were gathered from the media center and made available to the children. Films were viewed and many discussions took place. Children's knowledge of these reptiles grew.

Once they had a background, I began the phase of study which encouraged critical thinking. I gave each student some dough to mold into the shape of a dinosaur bone. Students had to apply their knowledge of what a model of a dinosaur bone might look like and deduce what attributes a bone might have.

Later after the "bones" had been baked, I hid the bones in a rocky, grassy area on the school yard. Each child "became" a paleontologist and dug to find the hidden dinosaur bones. When all of the bones had been discovered, we took them back to our "lab";after careful evaluation of the bones, the students found a way to organize the bones to create their own original dinosaur.

The atmosphere in my classroom is alive with energy. I am careful to question students in such a way that encourages them to predict outcomes, compare possibilities, make recommendations and consider alternatives. If there is a problem to solve, the students, not the teacher, find the solution/s. We have a mutual trust and respect in our classroom which allows us to grow as learners!

1988-1989 Laboratory Fellow

CAROLYN WILSON

Teacher, Grade 2
Samuel Staples School
Easton, Connecticut

Nominator: Nancy Lischko
Principal

School Enrollment: 430 (K-5)

District Enrollment: 691 (K-8)

Carolyn Wilson, a practitioner for 22 years, believes that every child has gifts which the teacher has the responsibility to develop and enhance. She is constantly seeking vehicles for her beliefs: building thinking and reasoning skills in her young students has been an integral part of her teaching repertoire for a very long time.

Ms. Wilson's current approach has evolved from her first experiences with the learning center concept, which she was exposed to in her graduate work in the mid-1970's. She feels strongly about the positive value of such centers when the activities are meaningful and the children are monitored closely. However, as she states in her portfolio, with the volume of information which now needs to be taught and learned, she finds she must increasingly strike a balance between directed teaching and individual instruction.

Principal Nancy Lischko, who has observed Ms. Wilson's teaching over the past two years, describes her as "an outstanding teacher" whose daily lessons stimulate higher order thinking skills in her students. Ms. Lischko concludes her nomination letter by stating that "Carolyn Wilson's students and their parents feel very fortunate to have her."

Carolyn Wilson earned the Bachelor of Arts degree from Bridgewater (MA) State College and the Master of Education and Sixth Year degrees from the University of Bridgeport, Bridgeport, Connecticut.

She sums up her educational philosophy with two lines:

> *Accept a child where you find him or her*
> *and take each as far as she or he can go.*

Ms. Wilson's value to her students and parents becomes evident when one reads her portfolio:

TEACHING CONCEPTS - TO DEVELOP THINKING SKILLS

1. Always give reasons for learning. Relate them to the child's needs as often as possible. Then the child will concentrate on the lesson rather than why s/he's learning certain material.

2. Provide hands-on activities as often as possible. Children have to "think" in order to "do."

3. Vary the program. Have many different activities with each child working at his or her own rate. Slow, meticulous children then have enough time to complete the work while there is always enough challenge for the quicker child. This allows and encourages each child to think at his own pace. Variety discourages boredom and stimulates interest and thinking.

4. Segment activities and pace them so that each segment is important. This way, work will be done carefully and neatly, and each finished segment will give the child a sense of accomplishment.

5. Discover each child's strength. Have children use their strengths as often and as obviously as you can reasonably justify. It builds confidence and makes their weaknesses easier to bear. When you have them use these strengths to help others, it enhances their own thinking skills and makes them better able to cope with their own weaknesses.

6. Integrate subject areas wherever possible. Use poetry to teach art, reading to teach writing, health to teach social studies.

7. Ask open-ended questions. Responses that cannot be given with a yes or no require children to think through the question and formulate a complete answer. Make sure children understand that questions do not always have a single correct answer.

8. Accept and encourage unconventional answers. Exploring the rationale for these answers expands the thinking of the entire class.

9. Listen to all the children, not just those who speak well.

10. Wait for children to respond. Give each child an opportunity to think through the question and mentally formulate an answer. Choosing early volunteers discourages the others from bothering to think.

RATIONALE FOR TEACHING THINKING SKILLS

The idea of teaching thinking skills to young children is not new, but what is new is more a matter of "how to" teach than of "what" to teach. The historical approach to education has been to teach children facts about subjects. The information explosion of the last fifty years has made this an impossible goal. We must teach them thinking skills so they can acquire the necessary facts and make wise decisions.

Acquiring the ability to combine various thinking skills required to solve problems provides children with a basic tool they will need to function as adults in the modern world.

How children feel about themselves and their places in the community can affect their thinking positively or negatively. A classroom environment that engenders fear and anxiety blocks thinking; one that encourages curiosity and interest stimulates it.

It is important for elementary teachers to remember that children are capable of developing a variety of thinking skills regardless of their grade level, age, or ability. They must also realize that young learners need help from adults to organize and guide this development.

EXAMPLE OF CLASS PROJECT TO PROMOTE CRITICAL THINKING

Name of Project: The Clue Box

Subject: Social Studies - "Studying Our Community"

Objective: Comparing and Contrasting Two Communities

Elapsed Time: Six Weeks

Project Summary

Boxes containing clues to community identity were prepared by the children and exchanged between our second grade and a similar one in Bethlehem, New Hampshire.

Only the teachers knew the identity of the other community. The object was for the children to develop the answer from the clues in the box received.

Each class of children had to think thoroughly about all of the qualities and characteristics that identified their mystery community.

The class prepared a list of clues and each child selected the ones he or she would include in the box.

The clues took the form of photographs, letters, pictures, samples of rocks, tree bark, shrubs, berries, leaves, maps, newspaper mastheads, and symbols.

A bulletin board was prepared with clues from both communities to involve the rest of the school in the quest for an answer.

When the strange box arrived, its origin was sought through evaluation of its contents, class discussion, media center research and parent discussion. Letters were exchanged.

The class carefully narrowed their choices and finally selected Easton, New Hampshire, the town adjacent to Bethlehem. It wasn't a disappointment because the children had used orderly logic and their choice was not unreasonable.

Information Developed

1. Geography - Relationship of communities to towns, cities, states and region.
2. Geology - Kinds and types of soil, rocks.
3. Forestry - Kinds of plants, trees, foliage.
4. Topography - Meadows, ponds, lakes, mountains.
5. Climate - The way seasons and weather affect community life.
6. Economic Geography - The way economic activity affects community life (farming, industry, business).
7. History - The way the past affects reputation and identity.
8. Symbols - Town and State seals, flowers, and nicknames, all providing tradition and identity.
9. Political - Forms of government - cities and towns.

Skills Developed

1. Problem Solving
2. Map Reading
3. Creative Writing
4. Art and Drawing
5. Vocabulary Enrichment
6. Independent Homework
7. Letter Writing
8. Reading
9. Library Skills

For more information regarding the Teacher Recognition Program please contact:

Janet Angelis
The Regional Laboratory for
Educational Improvement of
the Northeast and Islands
290 South Main Street
Andover, MA 01810
508/470-0098

or

Linda L. Colton
Small Schools Network
The Regional Laboratory
83 Boston Post Road
Sudbury, MA 01776
508/443-7991

This booklet represents a condensation of a more complete account of the philosophies, backgrounds, and personal commitment of the five honorees and was developed as a service to Small Schools Network member districts. We encourage you to make the text available to principals and teachers in your district or union. Additional copies are available from The Regional Laboratory, 290 South Main Street, Andover, MA 01810, 508/470-0098. $4.50 each plus $2.50 postage and handling. Please cite order number 9050-09.

Providing a link between research and the classroom is the primary job of The Regional Laboratory. To do this, we make research findings available to the educational community, conduct short-term research and development projects that meet the needs of practitioners, and convene groups around common issues or problems.

Our primary work is with organizations that work directly with schools -- for example, state education departments, universities, independent service providers, and professional associations.

Our efforts concentrate on the following program areas: Serving At-Risk Youth, Rural and Small Schools, Teacher Development, and Linking Policymaking to Educational R&D and Practice.

The Regional Laboratory for Educational Improvement of the Northeast and Islands is one of nine regional educational laboratories funded by the U.S. Department of Education. Our region encompasses the six New England states, New York, Puerto Rico, and the Virgin Islands.

For more information about the Laboratory or its products, write or call

The Regional Laboratory for Educational Improvement of the Northeast and Islands
290 South Main Street
Andover, MA 01810
(508) 470-0098