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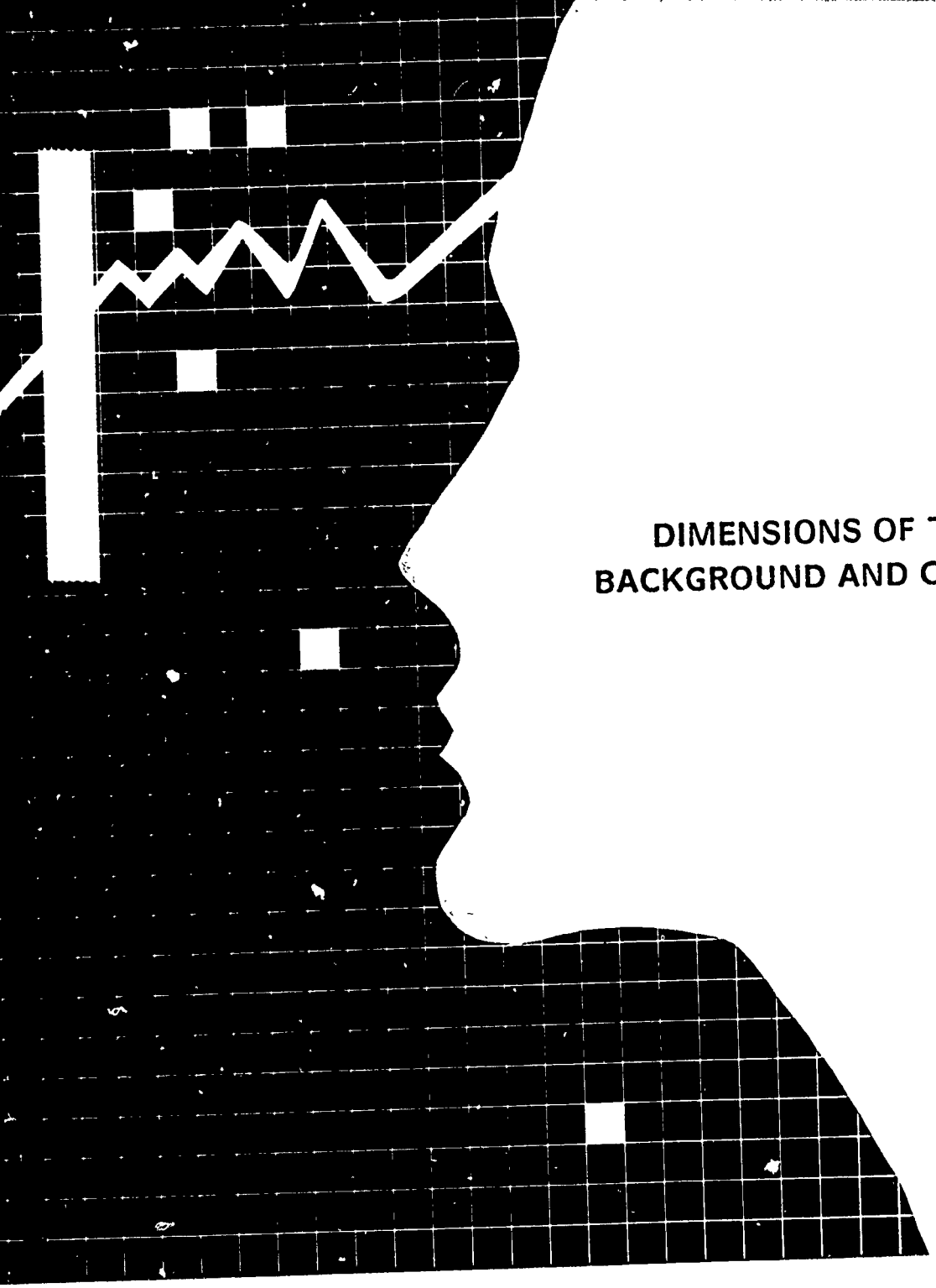
ABSTRACT

This monograph presents commentaries on the book "Dimensions of Thinking: A Framework for Curriculum and Instruction" (which organizes research and theory from several sources into a framework for teaching thinking), by four of its seven authors. The four articles are as follows: "The Development of 'Dimensions of Thinking'" (Ronald S. Brandt); "'Dimensions of Thinking' as a Framework for Curriculum and Instruction in School" (Carolyn Hughes); "'Dimensions of Thinking' and Cognitive Instruction: Use of the 'Dimensions' Model by Various Laboratories and Related Associations or Groups" (Barbara Z. Presseisen); and "Using the 'Dimensions of Thinking' Framework in Professional Associations" (Charles Suhor). (SR)



DIMENSIONS OF THINKING: BACKGROUND AND COMMENTARY

Helping Students

DIMENSIONS OF THINKING: BACKGROUND AND COMMENTARY

Ronald S. Brandt
Carolyn S. Hughes
Barbara Z. Presseisen
Charles Suhor

Prepared for the
North Central Regional Educational Laboratory

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Introduction

Dimensions of thinking is a strand of research developed collaboratively by the North Central Regional Educational Laboratory (NCREL) and the Association for Supervision and Curriculum Development (ASCD).

In the book Dimensions of Thinking: A Framework for Curriculum and Instruction (1988, ASCD), authors Robert J. Marzano, Ronald S. Brandt, Carolyn Sue Hughes, Beau Fly Jones, Barbara J. Presseisen, Stuart Rankin, and Charles Suhor organized research and theory from several sources in a format designed to be useful to practitioners.

The five dimensions of thinking identified are metacognition; critical and creative thinking; thinking processes; core thinking skills; and the relationship of content-area knowledge to thinking. Eight mental operations comprise the thinking processes dimensions -- concept formation, principle formation, comprehension, problem solving, decision making, research, composition, and oral discourse.

Work leading to the 1988 publication began three years earlier when the seven educators met to begin preparation of a framework that school districts and other agencies with a commitment to teaching thinking could use.

Presented here are commentaries from four of the seven authors. These articles explain the development of Dimensions of Thinking; discuss the use of the dimensions model by educational laboratories, associations, and other groups; explore how professional associations use the framework; and describe Dimensions of Thinking as a framework for curriculum and instruction in schools.

Both Dimensions of Thinking and these authors' interpretations are intended for principals, supervisors, curriculum directors, and teachers.

Dimensions of thinking and cognitive instruction: Implications for educational reform (Jones, & Idol, Eds., in press) uses and extends the framework developed by ASCD. This two-volume effort intends to be a comprehensive review of the issues and perspectives that relate to teaching thinking in the schools.

The Development of Dimensions of Thinking

Ronald S. Brandt, Executive Editor, ASCD

In 1985 I assembled, with some misgivings, a group of seven educators to prepare a framework for school districts and other agencies committed to teaching thinking. We had attended an invitational conference (at Wingspread, Racine, Wisconsin) a year earlier at which we had been urged to produce a taxonomy of thinking skills. Some of us had surveyed the relevant research, and some were acquainted with published programs designed to teach particular aspects of thinking.

We knew that several of the published programs reflected quite different definitions of thinking. Incorporating the best of them, along with research on cognitive strategies, plus the much more extensive body of psychological research on cognition in general -- not to mention a wealth of insights from philosophy -- into a single coherent framework would be nearly impossible, so we had reason to be apprehensive.

We went ahead, knowing that the results would not be completely satisfactory, because we believed that a new synthesis was needed. Educators, especially ASCD members, were intrigued by the prospect of enhancing students' intellectual abilities in conjunction with teaching academic content. Most believed that whether or not a school offered special courses in thinking, teachers should teach for thinking in every class. To prepare suitable plans, supervisors and curriculum directors wanted a comprehensive framework.

We began by reviewing the major schools of thought we knew about from the literature. Our aim was to identify these key "dimensions," analyze each of them to reveal their constituent elements, and attempt to show how they are related.

Because we wanted our model to be practical, we deliberately chose to use familiar terminology rather than to invent terms that might be more precise. Scholars have called attention to the inappropriateness of "skill" (Stahl, 1987), "critical" (Beyer, 1987), "creative" (deBono, 1987), and so on; but for better or worse, these words are part of educators' vocabulary and will probably remain so.

We defined at least six major dimensions, or aspects, of thinking that we felt should be taken into account in planning curriculum. Thinking involves the use of many skills, or microprocesses, such as classifying and summarizing. We selected 21 core skills grouped into eight categories, such as "organizing skills" and "integrating skills." We called a complex sequence of these skills, used to accomplish some purpose (such as composing or problem solving) a process. We argued that critical thinking and creative thinking are not processes but are ways of characterizing thinking according to standards, such as objectivity and originality. Another dimension, we decided, was awareness and control of one's thinking, referred to as metacognition. Finally, recognizing that thinking is often inseparable from content, we identified a sixth dimension of thinking as knowledge.

We might have included several additional dimensions. For example, educators must be mindful that children's thinking develops over time to become increasingly abstract and probably varies according to cognitive styles. Attitudes and dispositions are so important that we perhaps should have dealt with them separately, but we decided not to treat these and other topics in detail because we felt that these aspects of thinking were sufficiently discussed under the aegis of metacognition.

As we conceptualized our model, we discussed how it should be implemented. Dimensions was not intended as a book about teaching methods, but we felt we should warn against treating the framework as a separate curriculum. Instead, we advised readers to integrate the various dimensions (for example, processes such as composing or decision making) with the teaching of academic subject matter.

We took that position because, when we asked researchers to review early drafts of the manuscript, we found that, although they were supportive, they were frequently wary of the expected product of our efforts and concerned about how it would be used. Specialists in reading, for example, have witnessed the effects of a national preoccupation with skills that sometimes slighted purposeful reading for meaning. Teachers of English have found that too much emphasis on grammar can inhibit students' writing ability, and mathematics educators know that proficiency in computation does not ensure mathematical understanding. These scholars did not want students burdened with one more set of skills taught out of context.

Some of our friendly critics also warned that not enough is yet known about thinking to provide a dependable framework for instruction. To some degree they echoed the sentiments of essayist Lewis Thomas (1983), who observed, "I hope with some fervor that we can learn a lot more than we now know about the human mind, and I see no reason why this strange puzzle should remain forever and entirely beyond us. But I would be deeply disturbed by any prospect that we might use the new knowledge in order to begin doing something about it, to improve it, say. . . . the ordinary, everyday, more or less normal human mind is too marvelous an instrument ever to be tampered with by anyone, science or no science" (p. 153). Thomas was referring to medicine, not education, but his references to "this strange puzzle" testify to our relative ignorance about the mind and should give pause to anyone who proposes to teach others how to think.

Why, then, did we write Dimensions of Thinking? Because like many other educators, we are excited by the challenge of improving the quality of student thinking. Much remains to be learned about development of the intellect, but teachers do not need to wait to help their students become better thinkers. They can do this by setting tasks involving complex processes such as problem solving and research; by asking questions requiring students to organize, analyze, and integrate information; by modeling and reinforcing fairmindedness; by helping students learn to monitor their attention and commitment.

We believe that teaching students to think should be a priority goal of schools and school systems; that it should be embodied in curriculum materials, textbooks, and tests; and that teachers should have a clear idea of what is meant by "teaching thinking." If this is to happen, educators need a conceptual framework and a common language for talking about their efforts. Dimensions helps fill that need.

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Dimensions of Thinking as a Framework for Curriculum and Instruction in Schools

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If a school district's curriculum is to provide clear instructional focus and if students in the district are to have equitable opportunities to learn, teachers and administrators must share common understandings of what is to be taught. While such shared conceptual frameworks are needed in traditional academic disciplines such as mathematics, science, and social studies, the relative newness of specific attention to student thinking within the curriculum makes a common conceptual framework for thinking even more important. Recognition of this need and of the closely related need for a common language of thinking gave birth to Dimensions of Thinking.

Within most schools there are individual teachers who, for years, have taken pride in emphasizing student thinking. However, what these teachers emphasize varies widely. If these teachers communicate about what they are doing, they frequently discover that they are using the same words to describe very different aspects of thinking and that, in other instances, they are using different terms to describe the same thing.

With this discovery comes the realization that, without a common language for thinking, students' growth in thinking can be limited. Students may not be able to build on prior knowledge if, for instance, what the fourth grade teacher calls "concept formation" is called "thing making" by the fifth grade teacher. Likewise, learning may be handicapped if students are unable to see relationships between problem solving in mathematics and problem solving in social studies.

When groups of teachers and administrators within a school or school district become convinced of the need to take concerted action to improve student thinking, they face a confusing array of alternative approaches, programs, and materials. A shared set of thinking concepts and a shared language for labeling those concepts are necessary for comparing alternatives and making collaborative decisions. Without a common language, it is difficult for teachers to include thinking as they develop curriculum or to agree on what to consider evidence of attention to thinking in textbooks or tests being considered for adoption.

Dimensions of Thinking helps teachers and administrators answer questions such as:

1. What do students need to learn to do to become more effective thinkers? How will we know if they have improved?

2. What do teachers need to know to help students become better thinkers? What do teachers need to do to help students become better thinkers?

3. When we use terms such as **metacognition, critical thinking, creative thinking, thinking skills,** and **thinking processes,** to what extent do we share a common meaning for these words?

4. How can we help students become better thinkers without neglecting the basic content of the curriculum? How can we build the teaching of thinking into our basic curriculum?

5. What should we look for if we want to choose textbooks and tests which support teaching thinking?

6. How can we help parents, board members, and other citizens understand and support teaching thinking?

We have found, in working with teachers who want to do a better job with student thinking, that the first step is giving them a cognitive map of the territory. Teachers seem to appreciate direct instruction in the various dimensions of thinking, helping them to form or refine such concepts as **metacognition, creative thinking, thinking processes, thinking skills,** and components of these dimensions such as **comprehending, composing, comparing,** and **inferring.** Direct instruction includes not only definitions of the skills, processes, and qualities of thinking, but first-hand, immediate experience requiring the thinking skills or processes, and classroom examples showing how the thinking processes and skills can fit into the existing classroom curriculum.

While the direct instruction to form or clarify the thinking concepts may occur in a relatively brief period, continued attention to the language of thinking is needed if teachers are to recognize and maximize opportunities to teach for thinking on a regular basis. Among the approaches we have used to provide this continued attention are special school-wide activities, long-term staff development efforts, curriculum development and curriculum implementation.

During their first year of special emphasis on thinking, the staff of Stonegate School in Oklahoma City decided to help all teachers and students understand the language of thinking by having a "thinking word of the week". They began with the core thinking skills and featured each for school-wide emphasis. Bulletin boards throughout the building featured a skill such as observing. That week an activity table in the main hall near the office invited students to observe by looking, touching, listening to, and

smelling a collection of seeds. Within each classroom during that week, teachers emphasized the observing needed in every lesson, whether it was observing arm movements in physical education class or observing details of a mathematics problem. By the end of the week, even kindergarten students could tell what it means to observe and could give examples of ways observing helps them to learn

Long-term staff development efforts for schools in one district included a weekly session on a specific thinking skill. The thinking skill was explained and modeled. Teachers participated in a demonstration lesson using the skill, analyzed the lesson, planned another lesson as a group, tried out the lesson components with their peers, and received feedback on their efforts. In-classroom coaching was provided periodically as teachers tried ut their content-based thinking lessons with their students. Sometimes, when the trainer arrived to observe a lesson, the teacher reported that she had tried the lesson with an earlier class, but the approach "just didn't work". We found it helpful at this point to offer teachers two choices. We asked the teacher if she'd rather observe while we taught the lesson, using her lesson plan with her students, or whether she'd rather announce to the students that we were going to teach the lesson together. If the latter choice was made, the students were prepared and the teacher could expect us to ask some questions or make some statements during the lesson to help students understand, for instance, the skill of inferring.

While this long-term staff development effort required a major commitment of time, the teachers gained a repertoire of strategies for teaching thinking as well as a thorough understanding of the various thinking skills and processes. Comparisons of students whose teachers were participating in the staff development project with a stratified, matched random sample of other students found that the project students asked more questions in class and were better able to provide logical support for inferences.

A curriculum development focus for expanding the teaching of thinking skills and processes begins by helping the curriculum committee identify, for each unit, the concepts, principles, and understandings needed. Every unit of study has important concepts (and vocabulary words to label those concepts), principles (relationships among concepts), and information which students need to comprehend (by combining new information with prior knowledge to construct new meanings). Once the committee has identified these key components, they have a skeleton for a unit which combines content with thinking processes for knowledge acquisition. The thinking skills needed for these thinking processes will undergird the goals and objectives for the unit. Developing a

curriculum which integrates the teaching of thinking skills and processes with content prepares a committee to seek textbooks and other instructional materials which help students become better thinkers as they learn the content.

While every unit has fairly obvious needs for concept formation, principle formation, and comprehension, committees may need special encouragement to provide in each unit opportunities to expand learning by including at least one of the knowledge application or production processes such as composing, problem solving, decision making, or research.

Even when thinking components have not been carefully integrated into the curriculum, teachers can use the dimensions of thinking to identify opportunities for teaching thinking using existing curriculum and textbooks. Having been introduced to the dimensions and to some teaching strategies for helping students become more effective thinkers, one school staff decided to place special emphasis on the teaching of thinking in mathematics. A new mathematics textbook series had just been adopted. Grade-level groups of teachers worked together to identify, in the textbook and teacher's manual, the particular thinking skills or thinking processes to which students would need to build the given mathematical understandings and skills.

Another valuable use of Dimensions of Thinking, has been helping parents understand teaching thinking. Parent-Teacher Associations have proven to be receptive to hearing about particular thinking skills and processes. An added bonus has been the opportunity to help parents use the conversations they have with their children to do the kinds of questioning and listening that promote better thinking. Specific assistance for parent involvement has been provided by creating and distributing family learning guides for each elementary grade level. These guides are calendars that provide, for each day, a brief, specific activity which parents and children can do together to support student learning. These activities include attention to student thinking as well as to reading, math, etc. Parents who have participated in helping children become better thinkers seem more likely to see the cognitive and academic values of teaching thinking and less inclined to view it as some sort of subversive activity.

Even before its publication, the conceptual framework of Dimensions helped a committee of teachers and administrators from across the State of Oklahoma to produce Skylights: A Handbook for Teaching Thinking. Each person brought different experiences and different insights to the task. Our goal was to provide a tool to help teachers throughout the state guide their students to become better thinkers, even though we recognized that few teachers have specialized training in teaching thinking.

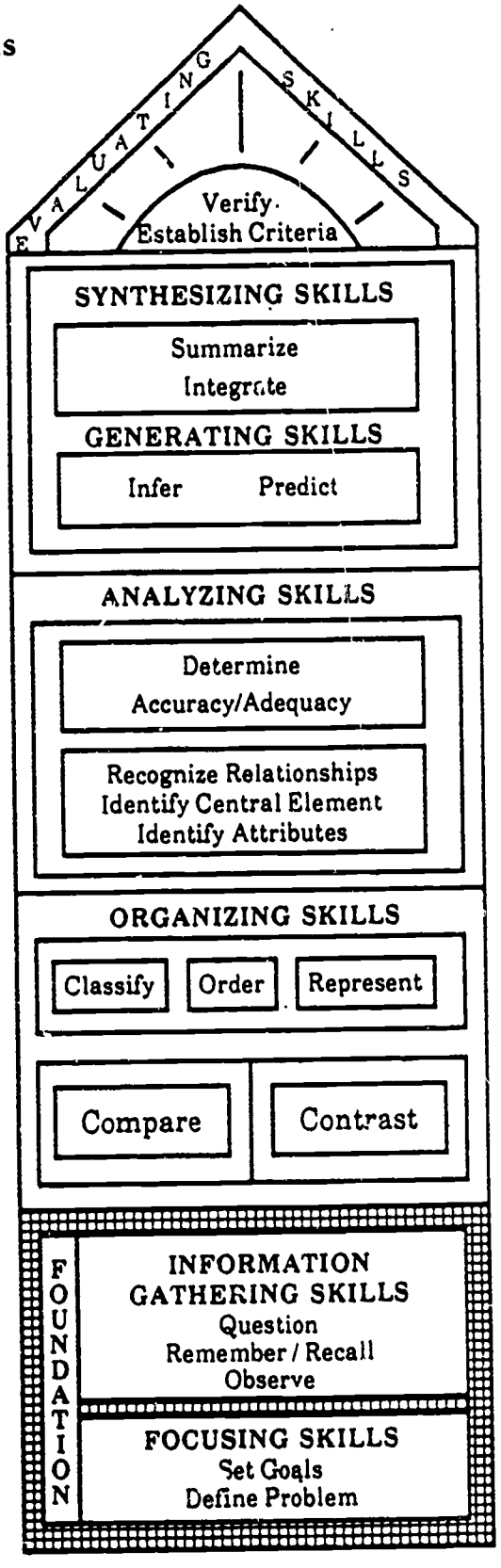
The Dimensions framework helped the group organize its work and agree on a common language to describe thinking skills, thinking processes and metacognitive behaviors. Building on the Dimensions framework, we reached consensus on the thinking skills most important to Oklahoma students and teachers. The result was very similar -- but not identical to -- the Dimensions core thinking skills. We thought it was important to provide clear visuals to help students and teachers recall and use the skills and processes. For instance, we created a House of Skills bookmark (see page 10) to communicate how focusing and information gathering skills form a foundation for more complex skills such as organizing and analyzing.

For each process, we created a model lesson and a graphic showing the thinking skills frequently needed in the process. To help teachers apply the skills at developmentally appropriate times we created sample questions and stimuli illustrating each skill using concrete, graphic and abstract content selected from kindergarten through twelfth grade curriculums. Numerous sample instructional strategies were provided to answer the question, "What can I do in any lesson to help students become better thinkers?" A final section of the handbook provided a cartoon to clarify each skill and sample lessons for applying the skills in a wide range of content areas and grade levels. By converting the conceptual framework of Dimensions of Thinking into practical, recognizable strategies and lessons teachers can readily employ in their classrooms, Skylights is beginning to help students across an entire state become more effective thinkers.

Perhaps the contributions Dimensions of Thinking can make are best summarized in the words **communication** and **collaboration**. When teachers use the language of thinking provided by Dimensions in communicating with classes, students can see connections between the cognitive activities in various content areas. These connections can help them transfer learnings into new situations both in and out of school. When students use this shared language of thinking, they are better able to communicate their ideas and to describe their reasoning. When teachers use this shared language of thinking, the clarity of their communication can lead to better collaborative professional decisions as they plan curriculum and select instructional materials which support an instructional focus on thinking. When parents and teachers share the common language of thinking provided by Dimensions, they are better able to collaborate in helping children become the thoughtful family members, students, workers and citizens on which the future of a democratic society depends.

NOTE: Skylights: A Handbook for Teaching Thinking was published by the Oklahoma State Department of Education in 1988.

House of Skills
Bookmark



Dimensions of Thinking and Cognitive Instruction: Use of the Dimensions Model by Various Laboratories and Related Associations or Groups

Barbara Z. Presseisen, Director of
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The regional educational laboratories were founded by Congress to serve several goals for the nation's educational system. The Elementary and Secondary Education Act of 1965 was responsible for developing programs to aid the educationally disadvantaged, provide instructional materials, support innovative measures in school practice, improve research, and strengthen state education agencies. Twenty-three years later, the nine regional laboratories currently operating are still engaged in similar activities. These laboratories are responsive to various educational clients in their region, largely geared to the improvement of educational practice, and to translating what is known in educational research into the daily lives of teachers and students.

In 1980, some portion of each regional laboratory contract was committed to a collaborative project in which the nine separate organizations worked together for common ends and for mutual sharing of information and resources. One of the areas that became a focus of this collaboration is called "Higher Order Thinking Skills." An advocacy position was developed that was keyed to the ideas that successful learners are good thinkers, that all youngsters think and can improve their thinking, and that teachers can improve the teaching of thinking by working at cognitive development and instruction. This advocacy position was transferred into the kinds of activities long associated with laboratory workscopes: the presentation of lectures and training programs, the development of instructional and planning materials, the location of specific content area resources and research studies, and the organization of symposia and conferences. A Cross-Lab Committee on Higher Order Thinking Skills was established to oversee the common activity and to keep track of the progress made in various tasks associated with the endeavor.

Three members of the Cross-Lab Committee served on the writing team that produced Dimensions: Robert Marzano, Beau Fly Jones, and Barbara Z. Presseisen. They joined with scholars, association representatives, and practitioners who attended the two meetings held at the Wingspread Conference Center in Wisconsin. They participated in the dialogue that led to an effort to define and describe what thinking skills are, how they relate to the school's usual scope and sequence in the curriculum, and how best to

construct a teaching environment to enhance the development of thinking. These three members interrelate with their fellow Cross-Lab Committee persons across the country, as well as with the regular clients of their own regional organizations. How has the development of Dimensions served this group?

First, Dimensions has been a framework upon which to relate questions about the pool of skills that constitute the various ways humans think. In presenting workshops to school district leadership, to state department of education trainers, to professional association members, or to groups of K-12 classroom teachers, some reference point is needed that helps give shape and scope to otherwise very murky waters. Dimensions is a useful launching point. It is not necessary to say it is the only way to organize the field of thinking, but it is a framework to give educators a start in raising questions about what we teach in school and how we teach it. Further, Dimensions suggests a common vocabulary that all educators can speak or begin to argue about, relative to the fine nuances of their understanding of cognitive theory.

Secondly, a rich literature exists on the various topics related to teaching thinking. Some of the literature is rather heavy on the psychological research side, some of it is very specific in its relationships to particular subject matters. Dimensions can be used to help educators relate to this literature, to focus on particular topics like metacognition or assessment, and to see the depth of issues in that topic without losing sight of the whole, dynamic field. Practitioners generally have too little time to keep up with the innovative practices or new materials recently introduced in their profession. They have even less time to devote to analyzing the theory underlying new research in the field. Works like Dimensions provide a useful resource keyed to particular research studies, but available in a compact enough form that such a book can readily be used by a classroom instructor or a group of teachers who want to work together to improve the instruction in their own building.

Third, Dimensions can be used to help educators understand the particular features of specific "thinking skills programs," to fathom the rather awesome display of commercially available thinking skills resources, and to raise the nitty-gritty questions about whether any of these materials is appropriate for the youngsters they need to instruct. Dimensions can be used as a mirror to reflect on a particular way to teach thinking, such as an information model, and to give rise to comparisons with other approaches in the field. It can become the basis for developing a list of questions or

issues that ought to be addressed in determining what is a necessary and sufficient way to help a particular population improve its mental operations, whether commercial programs will be used or not. Dimensions can be a preamble to developing the procedures and processes that help a teacher introduce thinking in the classroom.

How has Dimensions actually been helpful to the laboratories and their clients over the first year since its publication? Coupled with the earlier volume, Developing Minds (ASCD, 1985), Dimensions provides school districts and teachers with a working rationale and a carefully honed list of skills and cognitive processes upon which to build a thinking skills program. Teachers can focus on the meanings and the procedures of thinking in the context of their students' needs and relative to the subject matter or discipline that they instruct in the classroom. Some state agencies, with whom laboratories often work, have been able to use Dimensions as a framework for state planning, including curricular and instructional concerns as well as assessment practices across their region. Skylights, a publication of the Oklahoma State Department of Education, is an attractive document developed cooperatively in the state and used in the above manner for assisting teaching personnel across Oklahoma.

Dimensions has also been used by various laboratory staff members to characterize the various aspects of teaching thinking and to form the bases of training workshops that are a regular offering of a particular laboratory. Whether to train specific personnel in a region, as by request to a particular laboratory to provide service to a regular client, or by special arrangement with laboratory staff to help an association or agency, Dimensions is a very useful and available resource to include in workshop participants' packets. In many cases, school districts or a central office staff have already encouraged their personnel to become familiar with the booklet.

A recent development includes the use of the Dimensions model of thinking as a foundation for new resource development. Several publications are now in preparation that use Dimensions as the major "core" of thinking and, using that model, go on to develop examples of classroom instruction that illustrate the particular skills as applied to specific content or subject matter. Practical forms and implementations developed in this manner are often suggestive of other ways that teachers can adapt the Dimensions model and help enliven the classroom interaction. In the long run, the teachers' tasks are lightened and yet new collaborative activities might have been suggested for student use.

In conclusion, it can be said that Dimensions has been a very useful product and a useful tool to the laboratories for their work in encouraging the teaching of thinking. It has been useful as a definitive device that assists in articulating what is meant by good cognitive processing. It has been inspirational as a resource development aid in helping others to see the application of teaching thinking to their own classroom activity. In the long run, Dimensions will be a medium through which curriculum, instruction, and assessment are improved at every grade level, and potentially applied to every content area, as teachers examine their own meanings of thinking, learning, and achievement in the classroom environment.

Using the Dimensions of Thinking Framework in Professional Associations

Charles Suhor, Deputy Executive Director
National Council of Teachers of English

Judging from my discussions with various association leaders who belong to the Association Collaborative for Teaching Thinking (a group established by the Association for Supervision and Curriculum Development), many professional organizations are very enthusiastic about applying the framework proposed in Dimensions of Thinking to their subject areas. It does appear, though, that the framework meets particular needs in certain subject areas while others are keeping a distance from the entire thinking skills movement, for a variety of substantive or political reasons. I will discuss briefly the factors that have operated (and will continue to operate) in some associations' reluctance to deal intensively with the thinking skills movement. I will also suggest why such reluctance is unjustified, at least in terms of the content of Dimensions of Thinking and the recommendations for curriculum in the text. My examples will be drawn mainly from English and language arts, but educators from other disciplines will undoubtedly see parallels from their own fields.

Any framework for teaching thinking will, I believe, have to overcome three barriers with both the leadership and many rank-and-file members in professional organizations. The barriers are the taint of fad, the taint of isolated skills instruction, and the taint of ownership. Let me explain.

1. The taint of fad. Every educational movement, regardless of its potential value, is subject to the taint of fad. Educators have seen so many panaceas come and go that they are suspicious, and rightly so, of new snake-oil merchants. Weren't open classrooms supposed to revolutionize elementary education in the late 1960s? Didn't the back-to-basics movement in the mid-1970s hold promise that all students would attain minimal competency in academic disciplines? Wasn't the return to "rigorous" traditional programs in recent years going to raise the standards in our nation's classrooms? Movements tend to roar in too often, and with too much hype. So there is a tendency to regard "the thinking skills movement" cynically, i.e., as new labeling and packaging for old ideas, or as another educational novelty that will soon run its course.

Certainly the trends in English and language arts have been fickle. Reviewing innovations in English and language arts instruction in the last 25 years, I found only four that seem to have become part of the repertoire of English teachers -- journal writing, multiethnic literature, contemporary literature, and adolescent literature. The status of several current trends (e.g., writing process instruction, response-based reading, and literature instruction) is still uncertain. Out of the limelight, for good or ill, are the new grammars, minicourses, audiolingual second dialect instruction, creative dramatics, film study, mastery approaches, multimedia instruction, and a bevy of other would-be revolutions. Needless to say, many would disagree with my particular list of successes and failures; but the point about the mortality of trends holds nevertheless.

The question is whether or not a framework for teaching thinking, or some recognizable variation thereon, can achieve a permanent place in the conceptual repertoire of American educators, given the confetti of fads we have known. The ideas that underlie the Dimensions framework are, it seems to me, good candidates for survival beyond the status of fad. This is mainly because the framework was developed in accordance with solid criteria -- certainly more so than Bloom's well-known taxonomy. The concepts were drawn from research literature and examined and critiqued by literally dozens of leading theorists, researchers, and practitioners. Both psychological research and philosophical traditions were used as a backdrop for development of the framework. By contrast, fads characteristically call upon a limited body of research, championed by a school of partisans who focus on particular philosophical principles that support their cause. Although the thinking skills movement has a penny-bright luster that we would do well to mistrust, the Dimensions framework is sufficiently grounded in scholarship to merit the serious attention of leaders and members of professional associations.

2. The taint of isolated skills instruction. An unfortunate quirk of terminology is that the teaching of thinking was introduced in recent years as "the thinking skills movement." If there is one thing that drives many instructional leaders to a state of fury, it is isolated skills instruction. In English and language arts, their ire is essentially justified, given the wretched tradition of workbooks and ditto sheets, especially in the teaching of reading and grammar, and a testing industry that has in effect promoted the fragmentation of instruction. (NCTE's official position statements have frequently condemned isolated skills instruction and mass testing programs that encourage it.) Hence, the idea of a "thinking skills movement," if not examined past the popular label, runs counter to the beliefs of many leaders of professional organizations.

Their anxiety about isolated skills instruction in thinking is aggravated by many of the instructional materials that have appeared with the current movement. Midwest Publications, for example, has a series of small books, each dedicated to a particular thinking skill such as classification, analogy, and inference. The deBono (CoRT) program encourages brainstorming but in the main discourages elaborated classroom interaction beyond generating ideas. Many other texts and programs, despite claims of flexibility and subject-matter relevance, look very much like preparatory materials for reading readiness worksheets, the Miller Analogy Test, or the "Logic Puzzle" pages in the crossword puzzle magazines.

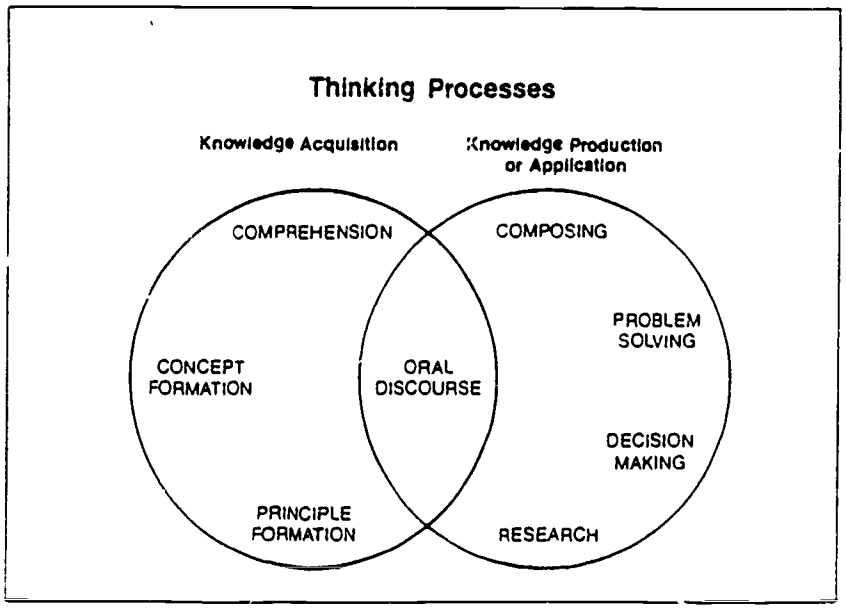
The present array of thinking skills programs might have other demonstrable merits, but in their present forms many are inconsistent with instructional programs that focus on extended oral and written discourse. The framework in Dimensions of Thinking, of course, specifically cautions against isolated instruction and urges the teaching of thinking in contexts, especially in relation to subject-area knowledge. The framework consistently stresses the need for integrated instruction, and Chapter 6, ("Relationship of Content-Area Knowledge to Thinking") is devoted entirely to teaching thinking within the disciplines. The concepts advanced in Dimensions can, if considered thoughtfully, be applied in ways that respect the distinctive bodies of knowledge and the varieties of pedagogy appropriate to each discipline. In particular, the emphasis on oral discourse and written composition as processes that give shape to thought in every subject area (Chapter 4) and the treatment of critical and creative thinking (Chapter 3) and metacognition (Chapter 2) should excite classroom teachers in all disciplines and curriculum generalists who are interested in integrated instruction.

3. The taint of ownership. As a practical and political matter, professional associations are often like presidential administrations -- they prefer to champion projects and ideas initiated within their own ranks. To state it unstintingly, . .SCD is the professional association most strongly associated with the thinking skills movement, and I believe that fact is a small, though surely surmountable, barrier to other professional associations.

Some political and substantive efforts were made to defuse the "ownership" question in the preparation of Dimensions of Thinking. ASCD enlisted some 28 professional associations in the Association Collaborative for Teaching Thinking. The Dimensions text itself contains innumerable classroom examples of how the teaching of thinking processes and skills can be carried out, and those examples are drawn from various

subject matter areas. And again, the chapters on content area knowledge, assessment, and uses of the framework are catholic in application.

Use of the framework by English and language arts curriculum specialists and teachers is encouraged by the centrality of oral discourse among the thinking processes. Moreover, instruction in all subject areas is negotiated largely through oral discourse, and the Dimensions graphic depicting the thinking processes (presented below) places oral discourse in a key position. Written composition is also a key element among the thinking processes as they relate to academic disciplines.



Nevertheless, I know English and language arts theorists and practitioners who will stake out their territory adamantly, saying, "We've been talking about the cognitive bases for instruction for a long time. The research and practice in oral discourse and composition cited in the framework is part of our professional literature. We have long been drawing on language acquisition and development research and on insights from psycholinguistics and sociolinguistics as well as oral discourse theory, schema theory, and response theory. Our basic instructional stance has long been that language is a way of learning." Frankly, I can go along with such boasts from any discipline, as long as they are not an excuse to ignore the richness and complexity of the rest of the framework.

No matter what the professional associations claim as part of their scholarly and instructional traditions, there are perspectives in the Dimensions framework that can yield new understandings, often cross-disciplinary; and educators can put these understandings to use in a variety of new ways, institutionally and as individual scholars and teachers.

In summary then, I believe that professional organizations -- and certainly innumerable individuals within such organizations -- will be stimulated to find immediate applications of the framework proposed in Dimensions of Thinking. For some, though, the taint of fad, of isolated skills instruction, and of ownership will pose barriers which are essentially prejudicial with reference to the actual content of the framework. A number of indicators should reveal whether the framework has had an impact on professional associations: reviews and articles in association journals; convention and workshop topics; position statements and resolutions; and sales of the Dimensions book through distribution by various organizations. Broader indicators in the profession will include treatment of instruction in thinking in curriculum guides, appearance of concepts from the framework in textbooks, and articles in non-association newspapers and journals. These should tell whether the framework can overcome familiar taints and capture the imagination of professional associations and their constituencies.

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