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ABSTRACT

At the North Carolina State Conference on the Gifted and Talented teachers and administrators explored new ideas, materials, and teaching techniques. Outlined are presentations on the following topics: a demonstration encouraging creative thinking; teaching the gifted using the theories of B. Bloom and D. Krathwohl; typical daily learning styles and techniques for the classroom; a lesson plan to encourage imagination through art; encounter-simulation activities; learning centers, individualized instruction, and learning activity packages; teaching values and decision-making techniques; and scientific and mathematical elaboration in the classroom. Focused on are a speech on trends in gifted education and a workshop on J. P. Guilford's Structure of Intellect (SI) model including its history and use; application to seven individual profiles; and its use in the development of instructional materials. Also included are appendixes detailing the SI model, illustrations, charts, and tables. (SB)

PROCEEDINGS FROM THE SECOND ANNUAL CONFERENCE ON THE GIFTED AND TALENTED

NEW DIMENSIONS: GIFTED/TALENTED

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State Superintendent

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Department of Public Instruction
Raleigh, North Carolina

1975

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The cover was designed by Jane Ferrell and adapted from A Beginner's Reader about Guilford's Structure of Intellect, S.O.I. Institute, 214 Main Street, El Segundo, California.

FOREWORD

The gifted and talented program in North Carolina is one of the best known in the United States. Our administrators and state staff work closely together to bring about needed changes and to chart different directions. This partnership offers more service to our students. The state is introducing new concepts in the education of these young people.

The policy of the State Agency is to look for ways to improve the educational program for students. One of these methods is through conferences which bring new, fresh ideas, materials and teaching techniques to our teachers. Conference programs are designed with specific objectives in mind. One objective written for the Second Annual Conference on the Gifted and Talented was to bring direct benefits to children through teacher interaction. Participants, in their evaluations submitted at the end of the conference, felt that they received many practical ideas and much useful information applicable to their classes. This was a major goal of the conference planners.

The conference was the culminating activity in North Carolina as the state took part in the Title V, Section 505 Project for the Gifted and Talented. Response to the sessions was excellent with over three hundred people registered. These people came from across the state as did the presenters. Therefore, ideas and methods generated here should have had a multiplying effect when participants returned home to try out what they heard or saw.

The first such conference was held last year at St. Andrews College. These two have demonstrated the need to continue this procedure in the future.

A. Craig Phillips
State Superintendent of Public Instruction

PREFACE

One of the largest and oldest programs within the Division for Exceptional Children is that for our gifted and talented students. The program has grown rapidly in the last several years and is becoming more flexible and innovative. Administrators and parents increasingly are recognizing the need for special services to this population. The Equal Educational Opportunities Act, passed by the General Assembly in 1974, has stimulated even more interest in the area. Growth combined with the State Board of Education's mandate of teacher certification in exceptional children gave two foci for this conference--upgrading teacher competency and innovative educational and curricular practices.

The staff who planned the conference addressed these interests and concerns. Statewide response was positive and supportive. One of our roles is that of service to our teachers and thus to the children they serve. We feel this conference helped supply this as the sessions explored various service delivery models with a continuum of service alternatives.

Theodore R. Drain

Theodore R. Drain, Director
Division for Exceptional Children

INTRODUCTION

At the TAG (The Association for the Gifted) Southeast Regional Conference in December, 1973, James Turner of South Carolina, Margaret Bynum of Georgia, and Joyce Runyon of Florida discussed the possibility of submitting a gifted and talented project to the United States Office of Education for Title V, Section 505 funding. They worked with Dr. David Phillips of the Title V Office in Washington. From this initial idea came a Ten State Cooperative Project which included the three states mentioned plus North Carolina, Kentucky, Alabama, Mississippi, Louisiana, South Dakota and Wyoming. The major theme of the project was "Awareness of the Gifted and Talented." South Carolina became the fiscal agent; Jim Turner, the project director; Misses Bynum and Runyon, the project consultants.

Several major parts were implemented in the project:

1 A planning session in South Carolina in September, 1974;

2. State representation at the National Conference on the Arts and Humanities/Gifted and Talented in Spearfish, South Dakota in October, 1974;

3 The Atlanta Interstate Conference in December, 1974, with each participating state sending a five-member team;

4. A state conference in each state funded through the project;

5. An optional "Proceedings" of the state conference to be published and disseminated.

The North Carolina Conference was held in Greensboro March 14 and 15, 1975, with over three hundred people attending. The two days were full of opportunities to accomplish three conference objectives:

1. To provide staff development activities for teachers of the gifted to upgrade their competencies;

2. To provide an opportunity for teachers of the gifted to exchange and share ideas with others;

3 To provide an opportunity for teachers of the gifted to learn new teaching techniques and acquire new ideas to use with gifted students.

In the evaluation the overwhelming opinion of the conference participants was that the objectives were met.

As most of the minishop sessions were participatory in nature, many of the enclosures are brief abstracts. Participation is a major thrust of the Section for the Gifted and Talented as it gives teachers practical ideas and materials which can be implemented into classrooms.

The Conference could not have been as successful without the guidance and support of Theodore R. Drain, Director, Division for Exceptional Children, and the consultants in the Gifted and Talented Section: Henri Fisher, Libby Broome and Sonny Johnson. The program and "Proceedings" covers were designed by Jane Ferrell, who also did the majority of the typing. Becky Lucy directed the registration and kept the books. This was a total Section project.

Cornelia Tongue
North Carolina Project Director

NEW DIMENSIONS: GIFTED/TALENTED

The Second Annual Conference on the Gifted and Talented

FRIDAY, MARCH 14, 1975

Registration 1:00 - 6:00 p.m. Lobby
HENRY JOHNSON and BECKY LUCY, Division for Exceptional Children.
Name tags required to enter all sessions.

General Session 2:30 - 4:00 p.m. Ballroom
Presiding: THEODORE R. DRAIN, Director, Division for Exceptional Children

Remarks: DR. A. CRAIG PHILLIPS, State Superintendent
GIFTED EDUCATION IN NORTH CAROLINA--FIFTEEN YEARS

Speaker: DR. JOSEPH RENZULLI, President of The Association for the Gifted (TAG) and professor, University of Connecticut
WHAT'S NEW IN GIFTED EDUCATION

Meeting, North Carolina Association for the Gifted and Talented
4:15 - 5:15 p.m. Ballroom
Presiding: DR. RICHARD STAHL, Appalachian State University

Dinner - on your own

Due to the tight schedule, please plan to move promptly into the minishops.

Minishops I 7:00 - 8:15 p.m.
Concurrent Sessions

1. *THE CHOCOLATE CHEESE FACTORY (An Enrichment Demonstration)* - Ballroom A
   Presiding: HELEN K. GAY, Supervisor, Wake County Schools
   Presenter: SANDY BASSLER, teacher, Greenville City Schools

2. *WAYS OF QUESTIONING USING BLOOM AND KRATHWOHL (Cognitive/Affective Thinking and Feeling Behaviors)* -Ballroom B
   Presiding: DAVID TRANSOU, teacher, Davidson County
   Presenter: BETTY HOBBS, teacher, Oak Ridge Academy

3. *CREATIVITY AND CURRICULUM--LEARN TODAY, EXCEL TOMORROW (Demonstration with Children)* - Ballroom C
   Presiding: WILLIAM GEORGE, Assistant Director, Division for Exceptional Children
   Presenter: ELIZABETH GRINTON, teacher, Wilkes County
   Participants: Fifth and sixth graders, Wilkesboro Elementary School

Minishops II 8:30 - 9:45 p.m.
Concurrent Sessions

1. *USE OF INQUIRY FOR FLUENT, FLEXIBLE, ELABORATIVE THINKING (Art and Creative Expression)* - Ballroom A
   Presiding: GLENDA ADAMS, Region 5 Coordinator for Exceptional Children
   Presenter: BETTY NEAL, teacher, Charlotte-Mecklenburg Schools

2. *DOING YOUR OWN THING (Encounter-Simulation Activities)* - Parlor G and H
   Presiding: SHIRLEY FRYE, parent, Greensboro
   Presenter: DRENDA POWER, teacher, High Point City Schools

Social 9:45 p.m. Ballroom B
ELIZABETH BROOME, Division for Exceptional Children

SATURDAY, MARCH 15, 1975

Registration 7:30 - 9:30 p.m. Lobby
Name tags required to enter all sessions.

Workshop 8:30 a.m. - 12:30 p.m. Ballroom
GUILFORD'S STRUCTURE OF THE INTELLECT (SOI) APPLIED TO THE CLASSROOM
Presiding: CORNELIA TONGUE, Division for Exceptional Children
Presenter: DR. MARY MEEKER, S.O.I. Institute and professor, Loyola-Marymount University, Los Angeles

Coffee Break during workshop

Luncheon 1:00 - 2:00 p.m. Parlor D and E
(Reservations necessary)
Remarks: CORNELIA TONGUE, coordinator, Gifted and Talented Section

Minishops III 2:15 - 3:15 p.m.
Concurrent Sessions

1. *LEARNING CENTERS AND INDIVIDUALIZED INSTRUCTION (Junior High)* - Ballroom A
   Presiding: DR. DONALD RUSSELL, professor, UNC-G
   Presenter: MERCEDES NEWSOME, teacher, New Hanover County Schools

2. *TEACHING VALUES AND DECISION-MAKING TECHNIQUES* - Ballroom B
   Presiding: DR. LEROY MARTIN, JR., President of PAGE
   Presenter: MICKEY WORRELL, teacher, Charlotte-Mecklenburg Schools

3. *SCIENTIFIC AND MATHEMATICAL ELABORATION IN THE CLASSROOM* - Ballroom C
   Presiding: HENRI FISHER, Division for Exceptional Children
   Presenter: LENORA WOODARD, teacher Goldsboro City Schools. Annie Hill and Swanola Mooring will assist (team teachers).

CONFERENCE EVALUATORS

MISS MARGARET BYNUM - Georgia Department of Education, Consultant in Gifted Education, Atlanta

MISS JOYCE RUNYON - Florida Department of Education, Consultant in Gifted Education, Tallahassee

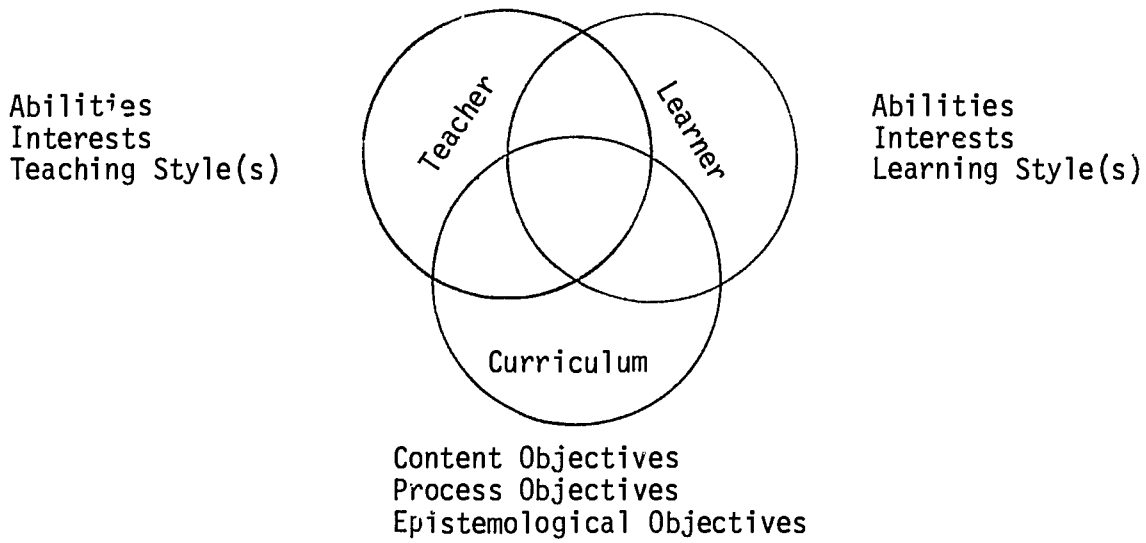
WHAT'S NEW IN GIFTED EDUCATION--AN ABSTRACT

by Joseph S. Renzulli*

We are addressing ourselves to the education of "children with gifts." As we work in this area, we must escalate our ideas and the processes of working with this select group. What model we select is not important--in fact, use any and all models which will accomplish what we are striving to achieve, while keeping mind going from the simple, through escalation, into the different and difficult. A child with gifts is a sustained worker and can move from simple to difficult, from concrete to abstract.

I have developed an interlocking model, a rather simple model, which combines my ideas of ways of working with the gifted and talented in the three areas of learning, teaching and curriculum.

The Renzulli Model



The Learner

As teachers work with students, they should remain alert to the fact that children learn in different ways. What learning style suits one child may not be the way another child learns. This is especially true as teachers work with students with different socio-economic-cultural backgrounds and environments. Children may also have several best ways to learn. The model addresses itself to a learning style(s) inventory. Learning styles are closely related to individual abilities and interests--use these. Teachers, as they work with the student, will become aware of these differences and build them up.

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*Dr. Renzulli is a professor of Education Psychology and Director, Teaching the Talented Program, School of Education, University of Connecticut in Storrs. He is currently national president of The Association for the Gifted, Council for Exceptional Children.

The Learning Styles Inventory may include all or part of the following:

1. Independent study
2. Projects through group interaction
3. Peer tutoring
4. Discussion
5. Simulation
6. Programmed instruction
7. Recitation and drill
8. Lecture
9. Role playing

An individual child may learn best by one or two of these. The teacher should continue to promote the development of a child's particular learning style strengths while helping the student to learn how to utilize several others and incorporate these into his learning patterns. This is a place where *process through skills development* enters.

The Teacher

We must expand the concept of "teacher." Teachers must perform their regular tasks, play their present roles but also must become mentors for gifted students. We must look outside the school building to the community, to parents, to volunteers, to college and university faculties, and to the technologists at the community colleges and technical institutes. School communities should develop resource guides of people within the community for reference. Is the role of "resource teacher" to change from contact with students in class to a coordinator, a conductor, between the individual student and the community resource? I think so, especially for the child with gifts.

"Teacher" must be re-educated, for all too often this person teaches as he was taught and in ways he learns best without considering the student's learning styles and needs.

I am seeing more often the "turned-on" professional, ones "who see things that are <u>not</u> there and asks, 'Why not?'" In my community of Storrs, we have "turned-on professionals" who are willing to change their lives and life styles to reschedule themselves to help gifted students; ones who are proud of their positions and willing to go beyond; ones who are willing to sacrifice to become better teachers I know a history teacher who is a historian; the science teacher who is a researcher; the English teacher who is an author--people who live their vocation--inspirational people. These people teach in the class and are out-of-school mentors also.

The Curriculum

We spend too much time in practice--we should work towards a <u>product</u>. Most school curriculum is not doing what it is supposed to do. Research proves that later adult accomplishments are more highly correlated with <u>extra-curricular</u> activities than with the regular curriculum. Something is wrong if we continue to operate an instructional program which ignores this research.

Schools and teachers must give students outlets to do something, to play a part in the real world. Some junior high gifted students in our community, with science teacher guidance, proved that an interstate highway would dramatically and negatively affect the city water supply if built where the Highway Department had proposed. They used pollution levels and air currents as evidence in their professionally written research report. The highway has been stopped and the issue is in court now. The students' research is the major evidence in the case.

"Kids" must have knowledge and facts but this is not the end in itself. People do not create in a vacuum. Our focus should be on process objectives as we teach children processes.

I call the epistemological objectives the "romance" objectives. How do men go about finding out? What are the processes, the drives? The tools of the trade are the love of knowledge and doing, a feeling for knowledge, a willingness to go beyond to achieve a goal.

Hopefully, this model will be useful in giving you new directions in North Carolina.

(Dr. Renzulli expanded from these notes and also addressed himself to a research project he is doing with the State of Washington. Unfortunately, his project cannot be included in the abstract. . .editor.)

THE CHOCOLATE CHEESE FACTORY (AN ENRICHMENT DEMONSTRATION)

by Sandy Bassler*

This segment of the conference deals with humanistic approaches in educating gifted and talented students in the elementary school through some group participation activities. Major emphasis will be placed on the affective domain and some of its implications on the processes of creative thinking and values clarification. Some of the activities are designed to enhance personal growth and self-understanding, while others may illustrate creative capacities and problem-solving abilities. Selected strategies and techniques will be presented in helping teachers be more effective by being more affective with their students. A handout named for the minishop was distributed to participants and samples from this handout are listed below.

Paper-Reinforcer Art

Purpose: Risk-taking skills, provocative and imaginative thinking, creative writing, elaboration skills, and creative speaking skills

Process:

1. Allow children to choose a sheet of construction paper from a selection of eight to ten different shades. Discuss the reasons for choosing a specific color and how people react when they can't get what they want. Give each child four paper-reinforcers.

2. With eyes closed have them "lick and stick" each to their paper. Advise them to avoid the corners. After they open their eyes let them visualize what they can see in their picture.

3. Draw a picture using the reinforcements as the main part of your picture. Encourage original thinking and the use of imagination.

4. When completed ask each one to write a story based on the picture. Read stories aloud showing the picture.

5. After the stories are read ask the students to hold their picture in front of them. Orally each is to compose a story using all the pictures in one story.

6. Discuss benefits to this activity and what creative thinking skills were used.

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*Mrs. Bassler is an enrichment teacher in the Greenville City Schools and has helped to produce curricular materials for that system's gifted program.

Gnue's
(Gnue Zoo Review)

Purpose: To give characterization to a non-living symbol
To develop clever and humorous captions
To practice personification
To encourage use of original, fluent, and flexible thinking styles

Process:

1. A gnue is just a simple circle that is given a personality by the author.

2. Children are asked to think of the circle as a person and involve him in a plot. Example:  How can you be so happy when I'm so sad?

3. Encourage students to develop as many gnues as possible. A caption should be written for each gnue. They may slightly change his shape to focus on a different situation. Example:  Get off me!

4. See how many they can create. Have a contest to see who can develop the most clever gnue.

5. Discuss creative thinking skills used in doing this activity.

New Coin Design

Purpose: To encourage original thinking
To develop fluent thinking skills
To use the inquiry method
To stimulate provocative thinking
To develop elaborative thinking

Process:

1. Discuss our system of coinage and the concepts already known. Make a list of things not known about our coinage. Investigate further why our coins are designed the way they are.

2. Design a new coin that we could add to our coinage system that would either replace an existing coin or be added as an additional coin. Decide what size it should be, what material, what designs it should have, and what it could be called.

3. Students may work in groups or individually and prepare a summary of the new coin describing all relevant information and why a coin like this is in such great demand.

WAYS OF QUESTIONING USING BLOOM AND KRATHWOHL

by Betty H. Hobbs*

How does one go about the process of teaching the gifted is not an easy question to answer. It is not easy because there is no absolute answer applicable to every teacher and to every gifted student. The suggestions which follow therefore are not presented as THE WAY, but rather as A WAY that has been helpful to me and meaningful to the students I have taught.

A word about theory first. In my experience, a theoretical framework has proved invaluable--not because it is intellectual, not because it is abstract. It is both of these and more. But a theoretical framework has proved invaluable to me because it has been useful: useful in helping me understand "where the student is," what his intellectual and affective "differences" are, and what it means to "teach students to conceptualize." Before becoming familiar with the work of Bloom and Krathwohl, for instance, I often planned a lesson around the material in the textbook and usually experienced the nagging frustration of "What is the purpose in all this?" Or when I'd go off on my own, with luck I got the kind of responses that I thought were more significant. These experiences were even more frustrating, however, because the results were inconsistent and I was keenly aware that I really didn't know what I was doing and I knew there had to be more that I was not doing. But I didn't know how to go to the next stage or even what it was. The lessons felt unfinished. The fragments of content, thinking processes, and feeling just didn't hang together.

What I learned from the study and application of the work of Bloom, Krathwohl, Guilford, and others was not startlingly new to me. It was more like a clear revelation of what I had dimly been aware of. Or it was a way for me to create order out of haphazardness. Instead of being an aimless wanderer, I became a confident traveler with a real destination and a dependable route to get there, one which has always been flexible enough to allow for refreshing and spontaneous side trips.

One of the most important things I learned--from gifted students first and from educational theorists later on--is that too much time and energy in education of the gifted is spent on drilling and recalling what they already know. At this stage of my career, I was practicing that what the gifted need is only more of what everyone else was getting. Admittedly the lessons were easier to prepare, but they were as boring and unsatisfying to me as to the students. There had to be a better way. And I discovered that there was when I began teaching at the Governor's School. During orientation week, we were introduced to Bloom's Taxonomy of the Cognitive Domain[1] and Krathwohl's

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*Miss Hobbs is a former consultant with the Gifted and Talented Section and now teaches at Oak Ridge Academy. In the summer she is English Department chairman at the Governor's School.

[1]Benjamin S. Bloom, et.al. Taxonomy of Educational Objectives: Handbook I: Cognitive Domain. New York: David McKay Company, 1956.

Taxonomy of the Affective Domain,[2] along with Guilford's Structure of the Intellect[3] and Lewis' Model of the Mind. After the introductory explanations, we were put to the task of applying these systems to our planning and teaching.

It soon became apparent that for me the key to teaching the gifted lies not in how much content or what kind of content, but rather in what kinds of questions. It is the questioning that stimulates the thinking; the content provides a field from which the questions arise. It is also the questioning that enables both teacher and student to make the educational process relevant to the human experience and real to the individuals interacting with each other in the classroom. It is therefore imperative for the teacher to know what kinds of questions to ask to stimulate the student to respond at different cognitive and affective levels.

Bloom's taxonomy of the cognitive domain classifies those educational objectives dealing with intellectual and problem-solving tasks. Responses in this area begin with simple recall, comprehension, and application; they evolve into the more complex operations of analysis, synthesis, and evaluation. The taxonomy of the affective domain classifies those educational objectives dealing with attitudes, values, and beliefs. Behaviors in this area range from attending and responding to valuing, organizing a value system and finally developing a consistent philosophy of life.

Teaching the gifted becomes more effective as the teacher employs a basic structure of identifiable levels of cognitive and affective objectives in designing lessons. The use of such a system as that of Bloom and Krathwohl can help the teacher structure questions and activities which will lead to the specific type of behavior desired. It can help the teacher avoid teaching toward only one or two levels of learning and can insure that different intellectual operations are being performed. For example, in the cognitive domain a question such as, "Identify the rhythm pattern of poem X" might elicit a response on the recall level if the student had been given the information in notes or in a classroom demonstration. If, however, the student had not been given the information for the particular poem but had received instruction on how to determine a rhythm pattern in poetry, then his response would be on the level of analysis. Similarly, a distinction in attitude response could be recognized in the affective domain. The student who reads a story by Arthur C. Clarke because it is assigned demonstrates quite a different attitude from the student who reads as many of Clarke's stories or novels as he can locate. The first student demonstrates an acquiescence in responding (level 2.1 on the affective continuum) by reading the assigned literature. His behavior is not self-directed. The second student, on the other hand, demonstrates a level of commitment (level 3.3 on the affective continuum)--not only to the author, but also to reading. In the course of discussing with students a poem, a story, or a set of poems or stories, or a movie, a striking phenomenon frequently occurs.

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[2]David Krathwohl, et.al. Taxonomy of Educational Objectives, the Classification of Educational Goals, Handbook II: Affective Domain. New York: David McKay Company, 1964.

[3]J. P. Guilford. Intelligence, Creativity and Their Educational Implications. San Diego, California: Robert R. Knapp, Publisher, 1968.

Students may be quick to identify and explain the commitment to a basic human value manifested in the content. They may willingly and eagerly assent to being committed to such a value themselves--sometimes because they sense that they are expected to give a certain response; sometimes because they sense that the value under discussion is inherent in the cultural environment in which they have been reared and they therefore automatically possess the value; sometimes because they actually do hold such a value. Quite a different reaction occurs when they are asked to cite instances in which they have demonstrated the value in their own behavior, or when they participate in a role-playing situation in which the values held will be acted out, or when they respond to a questionnaire or inventory designed to test the degree with which one consistently holds a given attitude.

An effective method of involving teachers in a workshop situation with the taxonomies is to engage them actively in the process of composing questions which illustrate certain levels of the cognitive and affective processes. Such a demonstration may well begin with a preliminary introduction to the taxonomies. This overview will be followed by the reading of a poem or short selection or by the viewing of a movie.[4] After becoming familiar with the "subject matter" component of the workshop, teachers receive a handout consisting of two tables of "Instrumentation of the Taxonomy of Educational Objectives"--one for the cognitive and one for the affective domain.[5] Another handout of a condensed version of each domain should be available. The teachers will then compose a few questions designed to stimulate the KNOWLEDGE level of the cognitive domain. These sample questions would be projected so that the group could discuss them. After this initial warm-up to the task of designing specific types of questions, the workshop members are divided into small groups of three or four. Each group will be assigned to write sample questions based on the movie or other content material already introduced to the workshop and illustrating designated levels of each taxonomy. The questions should be written in terms of the type of response the teachers will want to stimulate in their students and should be written in behavioral terms. After about fifteen or twenty minutes working time, the questions should be recopied on newsprint with magic marker and displayed for discussion and reclassification if necessary. (If time permits, a second composing process may follow.)

Since the purpose of the workshop is to demonstrate how to compose questions more effectively, it is imperative to allow in the framework of the workshop itself time for discussing problems, for sharing reactions, and for encouraging further application of the introductory experience.

Recommended Resources

Bloom, B. S. (Ed.), et.al. A Taxonomy of Educational Objectives: Handbook I: Cognitive Domain. New York: David McKay Company, 1956.

Kibler, R. J., L. L. Barker and D. T. Miles. Behavioral Objectives and Instruction. Boston: Allyn and Bacon, Inc., 1970.

Krathwohl, D. R., B. S. Bloom and B. A. Masia. A Taxonomy of Educational Objectives, the Classification of Educational Goals, Handbook II: Affective Domain. New York: David McKay Company, 1964.

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[4]Miss Hobbs used "Why Man Creates" during the demonstration. This film can be obtained from Pyramid Films, Box 1048, Santa Monica, California, for $270.00.

[5]This material follows the write-up.

TABLE I INSTRUMENTATION OF THE TAXONOMY OF EDUCATIONAL OBJECTIVES: COGNITIVE DOMAIN*

To facilitate the formulation of statements of specific behavioral objectives within the framework of Bloom's taxonomy, the writers have included a table made up of three columns. The first column contains the taxonomic classification identified by both code number and terminology employed in Bloom's (1956) taxonomy. The entries in the second column consist of appropriate infinitives which the teacher or curriculum worker may consult to achieve a precise or preferred wording of the behavior or activity desired. In the third column somewhat general terms relative to subject matter properties are stated. These direct objects, which may be expanded upon to furnish specificity at a desired level, may be permuted with one or more of the infinitive forms to yield the basic structure of an educational obj ctive--activity (process) followed by content (subject matter property). At the discretion of the reader the words "ability" or "able" can be inserted in front of each of the infinitives.

Taxonomy Classification		KEY WORDS Examples of Infinitives	Examples of Direct Objects
1.00	Knowledge		
1.10	Knowledge of Specifics		
1.11	Knowledge of Terminology	to define, to distinguish, to acquire, to identify, to recall, to recognize	vocabulary, terms, terminology, meaning(s), definitions, referents, elements
1.12	Knowledge of Special Facts	to recall, to recognize, to acquire, to identify	facts, factual information (sources), (names), (dates), (events), (persons), (places), (time periods), properties, examples, phenomena
1.20	Knowledge of Ways and Means of Dealing with Specifics		
1.21	Knowledge of Conventions	to recall, to identify, to recognize, to acquire	form(s), conventions, uses, usage, rules, ways, devices, symbols, representations, style(s), format(s)

*Excerpted from an article by Newton S. Metfessel, W. B. Michael and D. A. Kirsner. This was reprinted by permission from Charles Jakiela of Clinical Psychology Publishing on January 13, 1975. This article appeared in Psychology in the Schools, Vol. VI, No. 3 (July, 1969).

TABLE I (continued)

Taxonomy Classification		KEY WORDS Examples of Infinitives	Examples of Direct Objects
1.22	Knowledge of Trends Sequences	to recall, to recognize, to acquire, to identify	action(s), processes, movement(s), continuity, development(s), trend(s), sequence(s), causes, relationship(s), forces, influences
1.23	Knowledge of Classifications and Categories	to recall, to recognize, to acquire, to identify	area(s), type(s), feature(s), class(es), set(s), division(s), arrangement(s), classification(s), category/categories
1.24	Knowledge of Criteria	to recall, to recognize, to acquire, to identify	criteria, basics, elements
1.25	Knowledge of Methodology	to recall, to recognize, to acquire, to identify	methods, techniques, approaches, uses, procedures, treatments
1.30	Knowledge of the Universals and Abstractions in a Field		
1.31	Knowledge of Principles, Generalizations	to recall, to recognize, to acquire, to identify	principle(s), generalization(s), proposition(s), fundamentals, laws, principal elements, implication(s)
1.32	Knowledge of Theories and Structures	to recall, to recognize, to acquire, to identify	theories, bases, interrelations, structure(s), organization(s), formulation(s)
2.00	Comprehension		
2.10	Translation	to translate, to transform, to give in own words, to illustrate, to prepare, to read, to represent, to change, to rephrase, to restate	meaning(s), sample(s), definitions, abstractions, representations, words, phrases

TABLE I (continued)

Taxonomy Classification	KEY WORDS: Examples of Infinitives	KEY WORDS: Examples of Direct Objects
2.20 Interpretation	to interpret, to reorder, to rearrange, to differentiate, to distinguish, to make, to draw, to explain, to demonstrate	relevancies, relationships, essentials, aspects, new view(s), qualifications, conclusions, methods, theories, abstractions
2.30 Extrapolation	to estimate, to infer, to conclude, to predict, to differentiate, to determine, to extend, to interpolate, to extrapolate, to fill in, to draw	consequences, implications, conclusions, factors, ramifications, meanings, corollaries, effects, probabilities
3.00 Application	to apply, to generalize, to relate, to choose, to develop, to organize, to use, to employ, to transfer, to restructure, to classify	principles, laws, conclusions, effects, methods, theories, abstractions, situations, generalizations, processes, phenomena, procedures
4.00 Analysis		
4.10 Analysis of Elements	to distinguish, to detect, to identify, to classify, to discriminate, to recognize, to categorize, to deduce	elements, hypothesis/hypotheses, conclusions, assumptions, statements (of fact), statements (of intent), arguments, particulars
4.20 Analysis of Relationship	to analyze, to contrast, to compare, to distinguish, to deduce	relationships, interrelations, relevance, relevancies, themes, evidence, fallacies, arguments, cause-effect(s), consistency/consistencies, parts, ideas, assumptions
4.30 Analysis of Organizational Principles	to analyze, to distinguish, to detect, to deduce	form(s), pattern(s), purpose(s), point(s) of view(s), techniques, bias(es), structure(s), theme(s), arrangement(s), organization(s)

TABLE I (continued)

Taxonomy Classification		KEY WORDS: Examples of Infinitives	KEY WORDS: Examples of Direct Objects
5.00	Synthesis		
5.10	Production of Unique Communication	to write, to tell, to relate, to produce, to constitute, to transmit, to originate, to modify, to document	structure(s), pattern(s), product(s), performance(s), design(s), work(s), communications, effort(s), specifics, composition(s)
5.20	Production of a Plan, or Proposed Set of Operation	to propose, to plan, to produce, to design, to modify, to specify	plan(s), objectives, specification(s), schematic(s), operations, way(s), solution(s), means
5.30	Derivation of a Set of Abstract Relations	to produce, to derive, to develop, to combine, to organize, to synthesize, to classify, to deduce, to develop, to formulate, to modify	phenomena, taxonomies, concept(s), scheme(s), theories, relationships, abstractions, generalization, hypothesis/hypotheses, perceptions, ways, discoveries
6.00	Evaluation		
6.10	Judgments in Terms of Internal Evidence	to judge, to argue, to validate, to assess, to decide	accuracy/accuracies, consistency/ consistencies, fallacies, reliability, flaws, errors, precision, exactness
6.20	Judgments in Terms of External Criteria	to judge, to argue, to consider, to compare, to contrast, to standardize, to appraise	ends, means, efficiency, economy/ economies, utility, alternatives, courses of action, standards, theories generalizations

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TABLE II INSTRUMENTATION OF THE TAXONOMY OF EDUCATIONAL OBJECTIVES: AFFECTIVE DOMAIN

Taxonomy Classification	KEY WORDS	
	Example of Infinitives	Examples of Direct Objects
1.0 Receiving		
1.1 Awareness	to differentiate, to separate, to set apart, to share	sights, sound, events, designs, arrangements
1.2 Willingness to Receive	to accumulate, to select, to combine, to accept	models, examples, shapes, sizes, meters, cadences
1.3 Controlled or Selected Attention	to select, to posturally respond to, to listen (for), to control	alternatives, answers, rhythms, nuances
2.0 Responding		
2.1 Acquiescence in Responding	to comply (with), to follow, to commend, to approve	directions, instructions, laws, policies, demonstrations
2.2 Willingness to Respond	to volunteer, to discuss, to practice, to play	instruments, games, dramatic works, charades, burlesques
2.3 Satisfaction in Response	to applaud, to acclaim, to spend leisure time in, to augment	speeches, plays, presentations, writings
3.0 Valuing		
3.1 Acceptance of a Value	to increase measured proficiency in, to increase numbers of, to relinguish, to specify	group membership(s), artistic production(s), musical productions, personal friendships
3.2 Preference for a Value	to assist, to subsidize, to help, to support	artists, projects, viewpoints, arguments

TABLE II (continued)

Taxonomy Classification	KEY WORDS: Examples of Infinitives	Examples of Direct Objects
3.3 Commitment	to deny, to protest, to debate, to argue	deceptions, irrelevancies, abdications,
4.0 Organization		
4.1 Conceptualization of Value	to discuss, to theorize (on), to abstract, to compare	parameters, codes, standards, goals
4.2 Organization of Value System	to balance, to organize, to define, to formulate	systems, approaches, criteria, limits
5.0 Characterization by Value of Value Complex		
5.1 Generalized Set	to revise, to change, to complete, to require	plans, behavior, methods, effort(s)
5.2 Characterization	to be rated high by peers in, to be rated high by superiors in, to be rated high by subordinates in	humanitarianism, ethics, integrity, maturity
	and	
	to avoid, to manage, to resolve, to resist	extravagance(s), excesses, conflicts, exorbitancy/exorbitancies

CREATIVITY AND CURRICULUM--LEARN TODAY, EXCEL TOMORROW
(DEMONSTRATION WITH CHILDREN)

by Elizabeth Grinton*

Setting: Typical Classroom

Theme: "Learn Today; Excel Tomorrow"

Participants: 5th and 6th graders, Wilkesboro Elementary School, Wilkesboro, North Carolina

The time will be used to show typical learning styles and techniques carried on daily in the classroom.

When a child chooses to pursue an interest, time and assistance are provided for pupil to do research, inquire of others, write independently, visit, present materials and resource people, etc.

At the conference due to the limited time allowed for the presentation, we will let the participating children choose a "center" to demonstrate what they are learning to guests, teachers and parents.

Some Centers are:

A. Typing

B. Inquiry:
   1. Reading
   2. Creating
   3. Art/Music

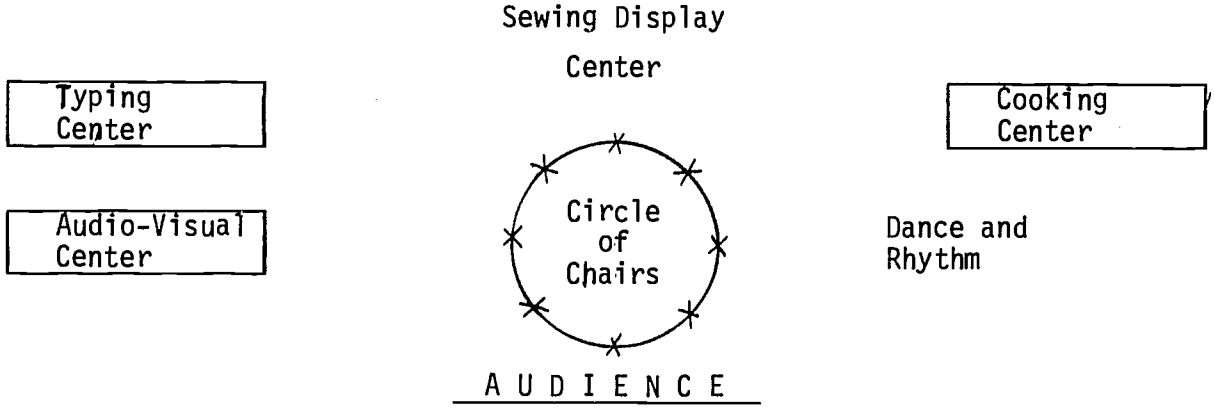
C. Sewing
   1. Management and Business

D. Cooking

E. Dance

F. Music

Discussion period follows after dismissal of children.



*Mrs. Grinton teaches in Wilkes County Schools and attended the 1972 Career Exploration Institute for Gifted Students at UNC-C. She has been a resource teacher in the workshop series.

USE OF INQUIRY FOR FLUENT, FLEXIBLE, ELABORATIVE TEACHING (ART AND CREATIVE EXPRESSION)

by Betty Neal*

A lesson plan to encourage risk-taking, curiosity, imagination through art using the work of Van Gogh.

The teacher briefly discusses the life and works of Van Gogh (source: L. Vinca Masini, Van Gogh. New York: Grossett and Dunlap, 1967). Display pictures in numbered order and stress the different periods. Mention that most artists change style as their life changes and that these are called periods. Discuss influences--(National Geographic, March, 1967),--use of light and color. Discuss progress of mental illness and influence on art. Compare 2 Starry Nights.

Give two or three children an envelope to study illustrating a period. One picture from each period is hidden in the envelope. After studying, they are to illustrate the missing picture--stress that artistic ability is unimportant, but that we are looking for the mood of the artist and the colors he used in that period.

Share each child's picture and compare with the hidden picture. During this part seek evidence for the progress of the artist's mental illness. Discuss the self-portraits and the Pieta.

Show how the artist spans the era between the Old Masters (Rembrandt) and the Contemporary (Picasso).

(Mrs. Neal took the participants through the activity with great success. . .editor.)

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*Mrs. Neal is an itinerant enrichment teacher in the Charlotte-Mecklenburg Schools.

DOING YOUR OWN THING

by Drenda Power*

These are the types of activities which will be demonstrated in the minishop.

I. Getting to Know Your Activities

1. Poetic Name Tags
2. Group Interviews

II. "High Fire"

Simulation game based on the movie "The Towering Inferno" in which ten people must line themselves up to take a ride in a "sliding chair" attached to a neighboring building in order to escape being killed on the 130th floor of a rapidly burning building. All may be saved--if not, those in front of the line naturally have the advantage. Participants draw for roles. Afterwards, observers will rank the ten in terms of "most-least deserving."

III. "The K-Mart Kaper"

Three teens in K-Mart. Two dare the third to participate in a tape "rip-off." The third must decide to risk rejection of her (his) friends and refuse or reject his own values and comply. Afterwards, the third party will act out the mental conflicts he faced, by using two chairs, face to face. He will switch from one chair to the other as he re-enacts the conflicting voices in his own value system.

IV. "What's Happening?"

Given certain situations, participants will use divergent thinking to explain what preceded the event.

Examples:

1. the lady was waving her arms
2. the man was on the grass
3. the black and white car drove slowly down the street

V. "Empathize"

Several "objects" will be interviewed concerning their "lives"--their adventures, crises, etc.

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*Mrs. Power is a teacher in the High Point City Schools. She has attended the Gifted and Talented Career Exploration Institute at UNC-C in 1972 and teaches in the Summer Gifted Program at Western Carolina University. She has been a workshop resource teacher.

Examples:

1. bacon frying in a pan
2. electric can opener
3. rusty tin can
4. a used bar of soap
5. mother earth having an earthquake

Before interviews begin, each object will re-enact some experience in its life. Observers will try to discover what the object is. After interviews, observers will explain which object they had most empathy with and why.

VI. "Solve It"

Clues to solving a murder mystery will be distributed to the group. The group (in its entirety) must arrive at:

a. the name of the murderer
b. motive
c. weapon
d. time of murder
e. place of murder.

Rules:

1. No one is allowed to leave his seat to show his clue to another. All sharing of clues must be done verbally.
2. Whenever the group agrees on a solution, they may tell me. I will only state whether all five answers are right or wrong. If part of the answers are incorrect, I will not tell which are correct or incorrect.

After group has correctly solved the problem, they will evaluate verbally what was responsible for their reaching a quick solution or what problems caused them to reach a solution more slowly.

GUILFORD'S STRUCTURE OF INTELLECT (SI MODEL) APPLIED (SOI) TO THE CLASSROOM

Mary Meeker, Ed.D.
Loyola Marymount University, Los Angeles

I am pleased to be invited to come here and talk to you about a new concept for education. The concept is simple; it is this: that we teach children to be intelligent; that is, that we develop their intellectual abilities. For years we have made the mistake of thinking that intelligence is reading, writing, spelling and arithmetic and we have, therefore, spent six hours a day of every school child's life trying to teach him these subjects as though they are the real, the only important definitive education. But these things: reading, writing, spelling and arithmetic, are only one kind of intelligence. We have a name for it. It is called convergent production; that is, the converging upon the correct answer to solve a problem the way we are taught to; that is why it is called the school block of abilities. It is an important kind of intelligence, but it is not the only kind. There are others and some of those others are very necessary for the child to have before he can do convergent production.

Now you see the difference--An educational system that teaches only convergent intelligence, without making sure the children have the necessary intellectual skills to do convergent production, is an inefficient, in fact, inhumane system and one which will turn out sixty percent or more people who come out of school hating it, feeling a failure because they have not learned to an A level reading, writing, spelling or arithmetic.

That is what I am here to explain--that there is another way to teach, that it is necessary to base education on a theory of intelligence to teach you about how children learn.

And it is a complicated theory--that is, intelligence is complicated and not just a score. Perhaps the major problem all teachers face is that problem of understanding or attempting to understand individual learners, groups of learners, types of learners, as well as teachers' own reactions to these learners. Where do you go for this understanding? You cannot go to the curriculum specialists. I think it is safe to say, and curriculum specialists would agree, that they nor teachers are trained to know the child, his development, his psychological, intellectual, physical needs, strengths, and weaknesses.

It would seem from the point of view of training that the school psychologist should be able to offer this information. Teachers need to know the norm, but they also need to know about teaching the many who depart from whatever the norm is. Because the observant teacher, sensitive psychologist and the aware parent know that all children differ, not just those earmarked for special education: children differ within the same family, within the same grade level and the same age level. And they do most certainly differ when they show identical IQ scores, whether they are classified as average, retarded, gifted, physiologically impaired, disturbed, brain damaged, disadvantaged by language or culture.

There is no system at present which orders these differences as found among normal school children--no classification system specifically developed to describe to the teacher the many characteristics she will find among types of normal children who need individualized attention and special curriculum in her grade.

For the severely exceptional child, however, there are several ordering schema [1,2,3] available for medical diagnosis. One system developed in the United States by the American Medical Association is the Standard Nomenclature.[1] Any system seeks to serve the purpose of encompassing as broad a description about a type of diagnosis as is possible. A less broad system (for international statistical reporting and study of groups of cases) developed by World Health Organization is called the International Statistical Classification.[2]

There has not been a demand for a system of classification for the normal child because educators looked upon all children as being average and the school curriculum was an adopted set of notions that all children were to learn. We can therefore draw this analogy: The medical people saw a need for a standard way in which medical treatment necessitated a medical etiology describing symptomatology of types of illness. The analogy, for education, lies in the fact that if classifications for purposes of instruction continue to be tied to legal and legislated assignment of funds for instruction, and if this national movement toward non-labelling continues, then educational psychology will also need a classification scheme which is tied to treatment.

Nevertheless, all children in schools, whether placed in special education programs or not, do, at times, need some special instruction specifically prescribed for their uniqueness. A portion of this paper describes a model which may be used for development of curriculum to be described in three major areas of growth. Within each of these areas and within the established or expected norms, all students will differ. To the extent that they do, this information needs to be known so that assessment and evaluation procedures can be developed to allow educators to plan instruction for their individual differences.

Such information about any child needs to be assessed by the school psychologist, and communicated to the teacher and the parents who cannot usually gain the information on their own.

In the course of training school psychologists who for the most part were once teachers and most of whom are also parents, I found it necessary to develop a system for helping psychologists understand the total system or functioning of any one child. We've all learned the concept that the sum of the parts is greater than the whole. Therefore, the components of each of the three parts (areas), if separately tested for, will show that children will differ.

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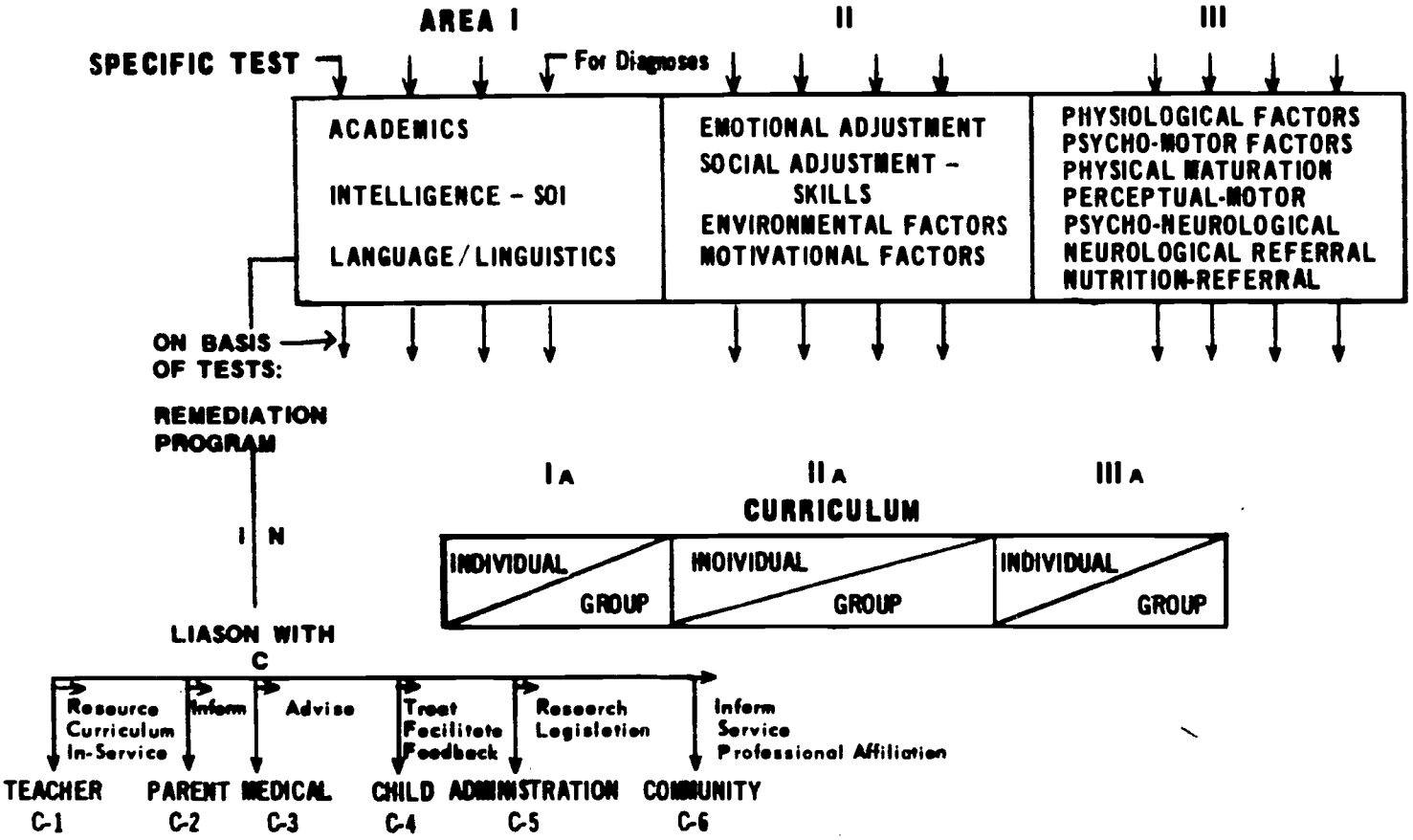
[1] Standard Nomenclature of Diseases and Operations, 4th Edition, (Philadelphia: Blakistone Company, 1952).

[2] Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, (Geneva, Switzerland, 1948).

[3] Committee on Child Psychiatry-Group for the Advancement of Psychiatry, Psychopathological Disorders in Childhood: Theoretical Considerations and a Proposed Classification, (New York: Publications Office, Group for the Advancement of Psychiatry, June 1966), Vol. VI, Rep. No. 62.

Fig. 1-1a

PARADIGM FOR TRAINING SCHOOL PSYCHOLOGISTS



OBJECTIVES FOR THE SCHOOL PSYCHOLOGY PROGRAM

1. Expertise in testing for major exceptionalities in 3 areas of functioning.
2. Expertise in development of specific programs to remediate or enhance child's needs in 3 areas.
3. Preparation for liason responsibilities with:
   a. Teacher
   b. Parents
   c. Medical
   d. Child
   e. Administration
   f. Community and Professional Organizations
4. Preparation for director of pupil personnel or special education services.

Mary Meeker, Ed.D.
Director of Training, School Psychology
Loyola University

If we look at the child (or anyone) as a whole person (system) functioning within his or her own capacity, we can diagram the functions by separating them into three major areas. And by doing so, we can chart individual differences. This system will allow labelling or classifying as an educational typology to be replaced by assessment of areas for the purpose of individualized instruction regardless of label or category.

Area I functioning, the primary topic of this paper, is defined by intellectual, academic, linguistic and speech differences. Academic functioning is, of course, measured by school achievement--grades and achievement tests. Intellectual functioning characteristics are measured by intelligence tests which differ in terms of the mode of testing (group or individual) and in terms of differential measures (general intelligence or specific intellectual abilities).

Research since 1963 which has based academic functioning on intellectual abilities as re-defined by the Guilford Structure of Intellect (SI) model and applied by Meeker (SOI) indicates that academic achievement very often hinges upon the special kinds of intellectual abilities needed for that particular kind of achievement, (Meeker, M. 1963. 1966; Wilson, M. 1969; Feldman, B., 1970 and many others). Thus, Area I functioning in achievement depends a great deal upon intellectual strengths or weaknesses. There are group tests which assess achievement and there are individual tests which give even more precise information. Since the ability to comprehend and use language also underlies the ability to achieve in school, these skills and functioning fall into Area I.

Assessment of these functions in Area I is necessary for systematic planning of individualized or group instruction whether for exceptional or normals who differ. The use of such a model as the paradigm in the training of educators gives to those so trained (1) the ability to perceive where children function differently within the three areas; (2) delineates tests for specific information; (3) gives the educator a firm basis for true individualized prescriptions.

I shall briefly describe Area II and III functioning before covering the Area I functioning within which the SOI falls.

Area II functioning is often called the affective functioning of the person in contrast with Area I which is referred to as cognitive functioning. But affective functioning is more than single emotional characteristics. In Area II, we see the other components which underlie the affective; that is, the environment (which differs for all children), social skills, social and peer acceptance, personality, and motivation. There is no mention in Area II of spiritual or moralistic values primarily because this is a paradigm used for training psychologists and parents to understand children based on testing or observational procedures. Yet spiritual and moralistic values belong in, and underlie, Area II functioning. Enlightened interpretation of social adjustment and personality characteristics when tested by means of projective testing can lead to better programs for any child whose Area II functioning needs strengthening. But school psychologists who have learned to interpret projective tests only in terms of dynamic or psychoanalytic theory are often led to make such distorted conclusions that they have earned for themselves the reputation of producing little that is helpful to the teacher or parent. There are other kinds of information forthcoming from testing and observations in Area II and these are used to separate out of the affective area the specifics of what we generally term emotional overlays. The paradigm gives us a clear cut strategy for peeling the overlays. Any program in special education must include remediation based on observations and test interpretation of Area II functioning.

Area III. The physiological factors: Psycho-motor, perceptual-motor, physical maturation, nutrition and neurological variables differ among all of us. Each aspect of functioning in Area III needs to be assessed and acted upon should any differences occur. Therefore, minimally or major brain damaged children or gifted or so-called average, or disturbed or poor readers, or whatever label one wants to attach to a student, all need assessment in this area before a program so sophisticated as to include academic material is superimposed on the child. It becomes obvious that a child whose environment is so poor that he is malnourished or lacks nutrition, as well as the child whose body does not assimilate that which it ingests is in just as much need for Area III planning and remediation as the cerebral palsied child who requires special class placement because of an inability to coordinate. Care in Area III is most basic for expected academic achievement. And since it is, teachers, parents and psychologists need to know when to recognize the necessity for a medical or modern nutritional referral before superimposing academic curriculum.

To ask which area is primary or most important is sort of like asking whether the seed, the roots, the stem or the foliage is most important to the plant. Obviously all are important and each important in a different way.

Thus a gifted youngster may need special planning in Area II or III rather than in Area I, as might a retarded or other kind of student. And most certainly, the heavy responsibility and expectations of Area I achievement to the exclusion of all other functions becomes most apparent in its short sightedness.

To clarify how interwoven these functions are and how there is cross-causation and cross-symptomatology, the following game makes clear the interrelationships between any one of the functions in all three areas.

Figure 1-1b

A GAME: HOW TO FIND THE SUM OF THE PARTS*

(For Parents and Other Educators)

INSTRUCTIONS: On the right side of the page and on the left side of the page, you will find some characteristics. Take each one in turn and ask this question: Does this characteristic affect that one? If you think it does then draw a line with an arrow pointing to the ones it affects. Do this for each characteristic on each side. Begin with the first characteristic at the top of the right column.

PSYCHOMOTOR SKILLS

SOCIAL DIFFERENCES

EMOTIONAL ADJUSTMENT

ACADEMIC ABILITY

ENERGY LEVEL

SPIRITUAL VALUES
MORAL VALUES

LANGUAGE FUNCTIONING

INTELLECTUAL ABILITY

ENVIRONMENT

MOTIVATION

NUTRITION

PHYSICAL MATURATION

*From Meeker, M. Your Gifted Child, Creative or Stressed. In Press

If the reader has played the game, there are several conclusions to be made:

1. A turn of the page so that the top now faces on the left and the drawing of lines between the characteristics appearing at the top of the page will reproduce the paradigm.

2. The interrelationships are overwhelming.

3. We may speculate that the lines of connections themselves may be capturing the elusive intervening variables so long discussed.

4. That the planning for any specific section of function will have much greater effects than are at first apparent.

5. That we most certainly need to be more specific in our diagnosis and remediation or planning.

6. That we may be doing a great deal more for any child if such a system for testing, diagnosing and planning is used, and targets for curriculum are acted upon.

7. We can understand why children differ so much.

All of us like to know something about ourselves, so in the appendix (see Appendix A) there is a short questionnaire which will give you some indication about your own functioning in the three areas.

STRUCTURE-OF-INTELLECT FACTORS AND THEIR TESTS, 1966
Number 36, J. P. Guilford, R. Hoepfner

OPERATIONS

Cognition
Memory
Divergent production
coNvergent production
Evaluation

CONTENTS

Figural
Symbolic
seMantic
Behavioral

PRODUCTS

Units
Classes
Relations
Systems
Transformations
Implications

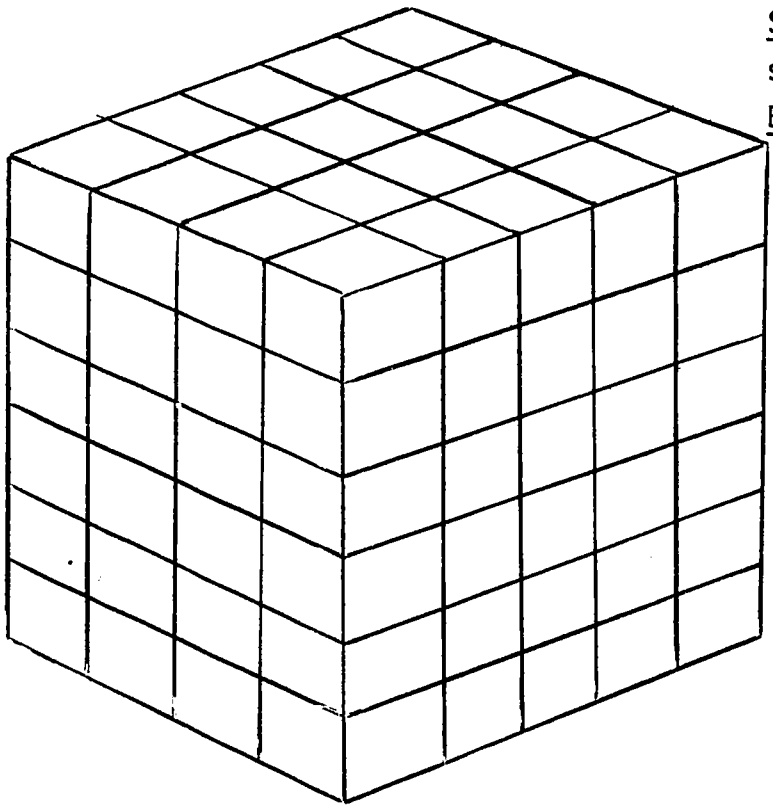


Figure 1-1c

The ideas basic to the structure-of-intellect theory were formulated in the late 1950's, and, through the factor analysis of many tests, were successively refined until the present model was formulated. The model is a three-way classification of intellectual abilities designed to encompass and organize intellectual-aptitude factors.

The model attracted much attention in psychology, but perhaps because of its complexity, its use as a practical model was not contemplated. I was a student of Guilford's in 1957 and in conversations with him, I indicated that it seemed to me its greatest utility would not be in psychology but in education; in education we needed to identify specific learning abilities, but more, we needed to teach them. Guilford smiled and said, "I hope you find a way to use it!"

Review of Research:

To my knowledge no theorist had proposed that just as there are emotional overlays there may also be cognitive overlays. Let me explain:

If we assume that the core of cognitive functioning is composed of intellectual abilities and that there are certain specific abilities which are a necessary part of a child's learning repertoire if he is to handle academic subject matter, then certain intellectual abilities must be foundational to academia; they form the core around which higher cognitive abilities lay themselves.

We already know that of the 96 Guilford SI abilities found in adults, certain SOI (Meeker's application) abilities have been found to be necessary if learning to read is to occur--(Feldman, 1970, Karadenes, 1971) and that certain intellectual abilities are necessary for math and English (Meeker, 1966).

My own research began in 1962 when in an attempt to base the Binet and WISC on a theory of intelligence for purposes of curriculum planning, I analyzed items in these tests and assigned them to the Guilford factors. At that time, no one had established that these factors also were found in childrens' responses.

With Guilford's encouragement, I developed templates to translate test responses of Binets to the SI Model, but in order to make these factors known, I had also to find a way to make an SOI Profile. I did this by slicing the cube apart. (Meeker, 1963)

The first public documentation was presented at APA, Philadelphia, 1963. The next formal paper was published in the Journal of Special Education under the sponsorship of Marcella Bonsall and T. Ernie Newland. Some interest was generated in a few theorists and doctoral candidates, and as a result, these three things occurred: The explosion of a Binet IQ score into components of a theory of intelligence; the suggestion that IQ tests could become diagnostic; and, the assumption that intelligence could be trained.

Charles Silberman in Crisis in the Classroom[1] takes as a major theme in his provocative book of education in the United States the idea that today's child who will be in the labor force well into the twenty-first century must be taught more than facts--he must be taught how to learn. Educators must consider the need to teach more than academic subject matter which is, incidentally, defined as one kind of operation, Convergent Production.

The inadequacy of a general index of intelligence is apparent if no use is made of it other than a number placed in a folder. Nonetheless, instruments of general assessment will not be quickly or easily displaced in the school context for two reasons: First, the instruments are familiar to practitioners and they are, undeniably, statistically sound. Second, there is, at present, no practical substitute for the Binet and WISC; i.e., there are no differentiated abilities tests (group or individual) that can be used within the limits of time and personnel that are normally allocated to testing. In other words, general intelligence instruments, although inadequate, will find continued use as long as there are no practical specific-abilities tests available for school students.*

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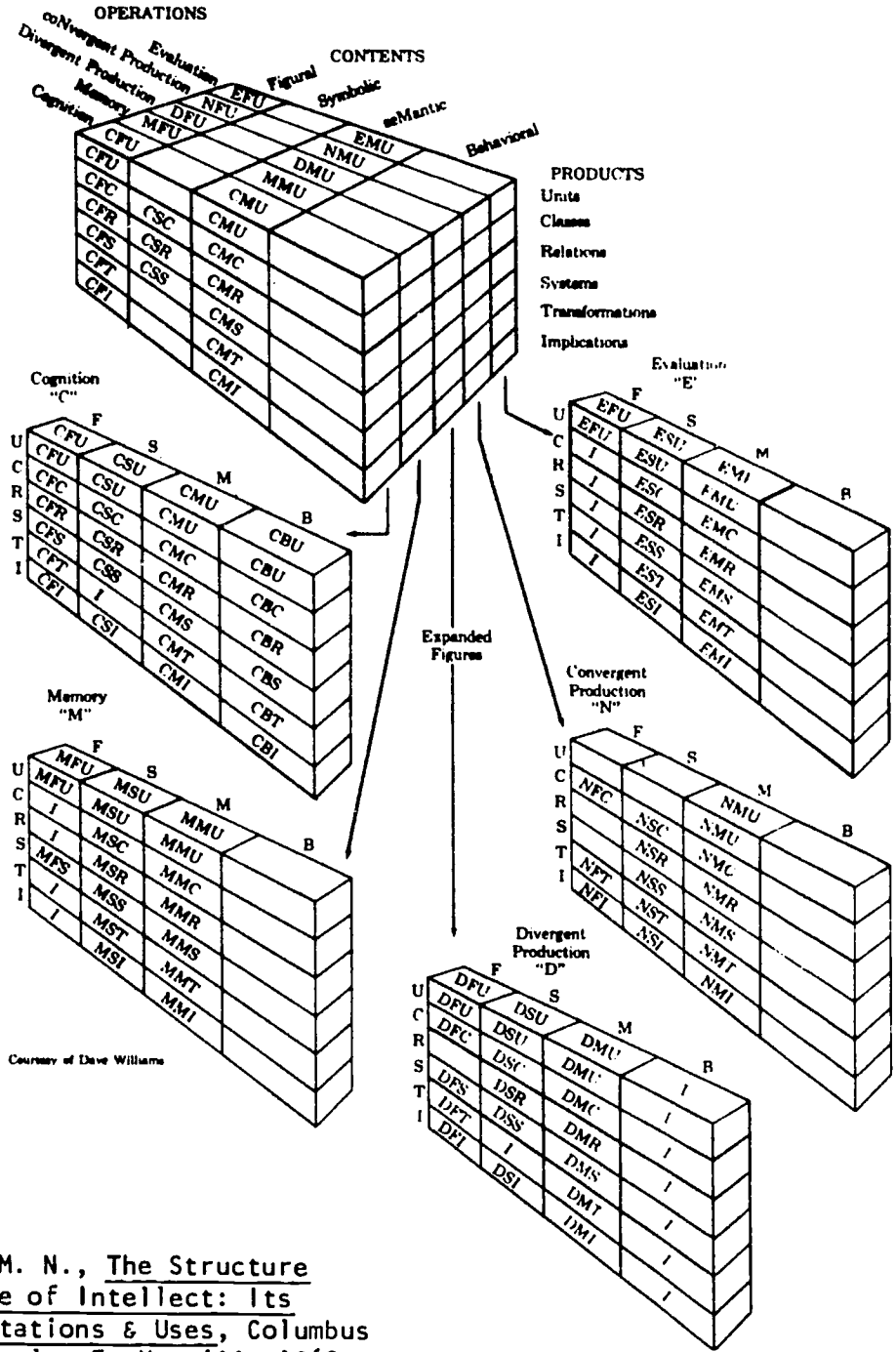
[1]Charles E. Silberman, Crisis in the Classroom, New York: Random House, 1970, p. 67.

*The SOI Institute is now norming group tests for use in predicting whether students have the necessary intellectual abilities for learning reading and arithmetic.

M. Meeker
Loyola-Marymount
Los Angeles

Figure 1-1d
STRUCTURE OF INTELLECT



Meeker, M. N., The Structure Structure of Intellect: Its Interpretations & Uses, Columbus Ohio: Charles E. Merrill, 1969

The Binet and the WISC have very limited diagnostic utility when reported as IQ scores and thus have offered little guidance for prescriptive treatment for special education, minority, ethnic, or any other children. As a practical and interim remedy for this situation, the Meeker (1963-1969) method for using Binet (or WISC) responses to derive differentiated assessments of samples of intellectual responses has given us much information regarding individual and group intellectual abilities.

The Binet-SOI analysis (Meeker, 1963) was derived for several purposes and is based on several assumptions, chief among which are: That intellectual abilities underlie the learning of subject matter and that with practice, intellectual abilities can be developed just as academic skills can, if a diagnosis of those abilities can be made based upon the rooting of the Binet and WISC on a theory or model of intelligence. The responses from each standardized test would present the most reliable and valid material for the purpose of identifying individual responses. This method has been used extensively in studies by Meeker (1963, 1965, 1966, 1971), Feldman (1970), Brown (1971), Karadenes (1971), Hays and Pereira (1972), and Manning (1973).

Meyers, Dingman and Orpet in 1964 found that certain SI factors were identifiable in young normals and retardates. Orpet and Meyers, in 1966, and Sitkei, 1966 found additional factors in young students. During that time Rachel Ball in an heroic attempt, factored every infant test in existence for use. She and Stott were able to identify many of the SI factors in test responses. This particular work is one of the most definitive of the SI background research, but unfortunately, it is not available except perhaps through Dr. Ball who lives in Tempe, Arizona.

In 1972 Ball continued research on the effect of environment and parent education level on black and white pre-school children. This work was supported by a grant and the earlier reports are not cited here. However, her latest research is summarized as follows:

Ball's research included 1,947 retested five-year-olds and 255 other white five-year-olds. In addition, 211 black five-year-olds were tested, most of them by black examiners. All of the children were chosen to conform with the earlier studies by having approximately one-fourth with mothers having graduated from college, one-half with mothers who were high school graduates, and one-fourth with ninth grade education or less. (Ball, R., 1972)

Ball found that when the two groups were combined, the factor analyses yielded two clear factors and two less distinct--Factor 1 is divergent semantic thinking and Factor 2 is convergent figural. Factor 3 is cognitive reasoning and Factor 5 carries a sense of psychomotor involvement.

- Fifteen percent of the variance in Factor A can be attributed to race, much less with Factor B and reversed with Factor E, so that, in the figural cognitive aptitudes black children out perform white children.
- The figural Factors B and E are positively related to age.
- Boys had higher means than girls in Factor A while sex seems unrelated to B and E.

. Education of the mother is a contributor to all three factors except for Factor E in black children.

. Age is more effective for spatial abilities than for language.

. Race is more effective for language based performance than for spatial relations.

. White children with higher scores seem to have more permissive, more concerned homes.

. Black high performing children seem to have highly structured homes with concerned striving adults.

Of all the tests used and analyzed in the study of intellectual functioning of galactosemic children at Children's Hospital, Los Angeles, the most distinct differential findings between treatment groups were found when templates for SOI factors were used. The significance of finding a single instrument for analyzing differences in intellectual functioning cannot be touted too strongly. (Nye, 1973)

Interpretation of findings of her study must be made according to the criterion described and the population from which the sample was selected. A summary of her findings follows: (Graphs are available upon request.)

1. Those children placed on a galactose-free diet at birth (T.G. I) have significantly higher levels of intelligence than children who had the dietary treatment initiated after having ingested galactose for any length of time prior to diagnosis (T.G. II).

2. Those children whose dietary treatment was initiated between three days of life and one month of age have the lowest levels of intellectual functioning as compared to children whose dietary treatment was initiated at birth and to children whose dietary treatment was initiated between one month and eleven months of age.

3. The weakest ability as defined by the SOI factors is Transformations for all galactosemic children regardless of the age when the dietary treatment is initiated.

4. Those children placed on a galactose diet at birth (T.G. I) function significantly better on the factors of Implications and Divergent Production than those children who were placed on a galactose diet between three days of life and one month of age (T.G. III).

5. Those children placed on a galactose diet between one and two months of age have the most flat profile of SOI abilities indicating no outstanding strengths or weaknesses.

6. Those children whose dietary treatment was initiated between three days of life and one month of age have the most scattered profile of SOI abilities indicating a widely uneven development of cognitive skills with certain abilities more superior than others.

The above findings are limited to a specific population and to a very specific disorder.

Perhaps the most efficient way to explain the method of curriculum planning from an individual SOI Profile is to do just that.

Let us look at several individual profiles.

PROFILE #1

This girl was referred for testing in accordance with district policy because the teacher recommended retention in second grade. Cause for retention was the child's inability to do first or second grade arithmetic.

Note the failures (minuses) in the symbolic (second vertical) column. The child was unable to perform any arithmetic tasks. Convergent Production (the school block of abilities) is a comparatively intellectual ability, although her comprehension (cognition) is extremely high. Such a pattern of strengths and weaknesses is accompanied with very poor memory responses, although she read at grade level.

SOI planning and curriculum remediation was instituted as it related to her weaknesses. The girl is now one year beyond grade level in math.

Specific tasks from the workbooks were: CFU-MFU-MSU-MMU presented in that sequence so as to present easy tasks contiguous with difficult ones. All Divergent Production Tasks were given to increase self-confidence. It is the nature of Divergent Production that the open-ended, non-value laden tasks increase feelings of success and inner locus of control.

Finally all Evaluation of Semantic Tasks were administered and finally the Piaget section of Convergent Production.

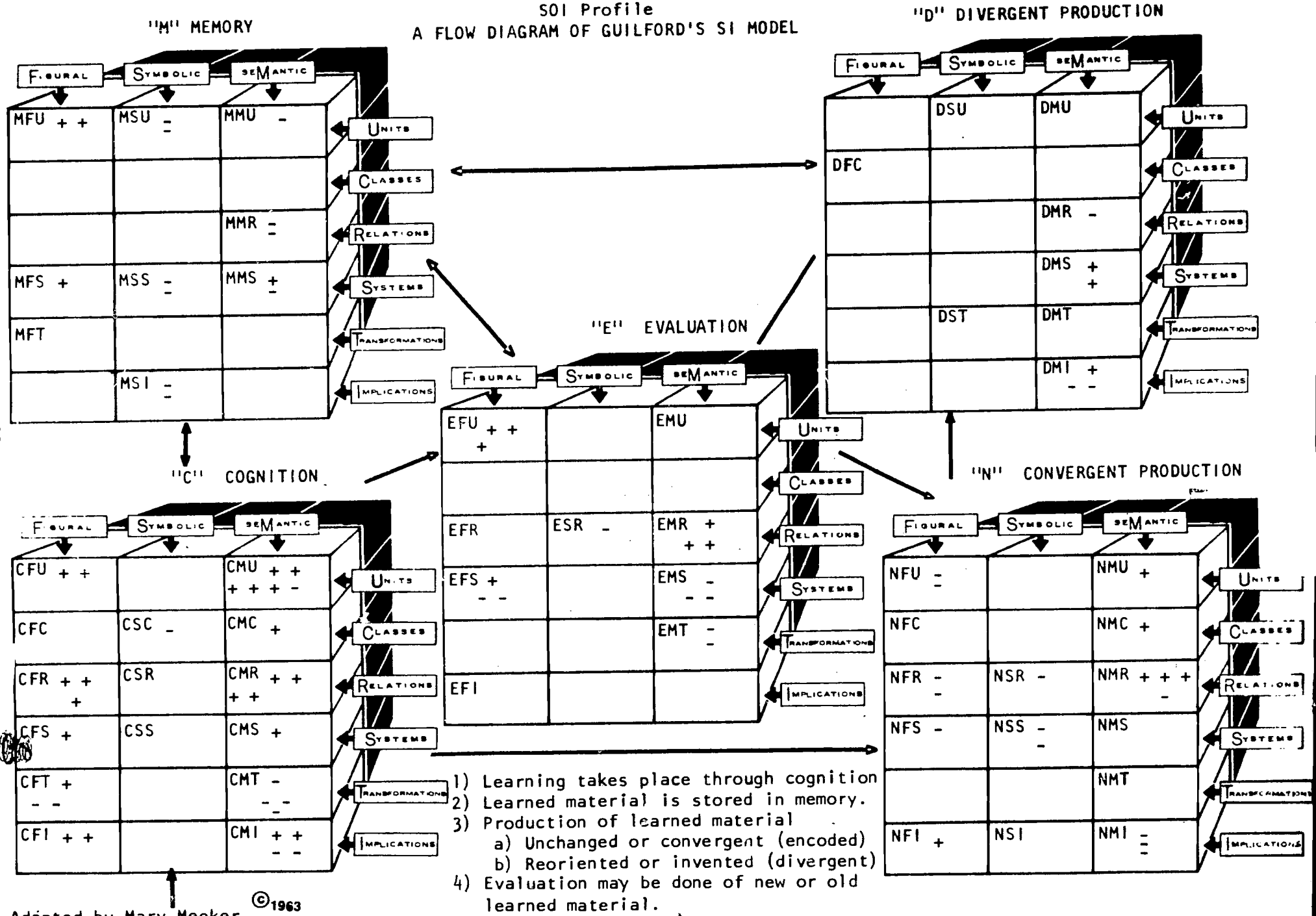
PROFILE AND TALLY SHEET FOR STANFORD-BINET LM
SOI TEMPLATES

PROFILE #1

Child's Name Girl - gifted
Basal _____ Ceiling _____ IQ___ CA___ -
Over 170

STRUCTURE OF INTELLECT PROFILE

SOI Profile
A FLOW DIAGRAM OF GUILFORD'S SI MODEL



1) Learning takes place through cognition
2) Learned material is stored in memory.
3) Production of learned material
   a) Unchanged or convergent (encoded)
   b) Reoriented or invented (divergent)
4) Evaluation may be done of new or old learned material.

Adapted by Mary Meeker ©1963

PROFILE #2

Profile #2 is a group profile of 33 Mexican American boys, disadvantaged, aged 4.9 - 5.9 who have had no pre-school experience. (Meeker & Meeker, 1973) IQ range was 77 - 123 with a mean of 95.

The L stands for a significantly poor ability in those cells in which an L appears.

Memory responses are poor enough that specific memory training should be a prominent part of the K - first grade curriculum. Although the SOI Analysis was designed as a means of getting away from group averages, the significant patterns may represent trends.

We know the memory is the most critical ability in learning school subject matter.

Another point for discussion is this:

Low Evaluation of Semantic Systems and Transformations is crucial for understanding social nuances. Therefore, M.A. boys entering school should be prepared in these abilities, too. (See Mark Karadenes' Study for additional information) Examples of materials which will teach these abilities follow:

PROFILE #2

PROFILE AND TALLY SHEET FOR STANFORD-BINET LM
SOI TEMPLATES

Child's Name Group--Mex-Amer.
Basal _____ Ceiling _____ IQ ___ CA ___
Tested in English

STRUCTURE OF INTELLECT PROFILE

SOI Profile
A FLOW DIAGRAM OF GUILFORD'S SI MODEL

"M" MEMORY

FIGURAL	SYMBOLIC	SEMANTIC	
MFU H	MSU L	MMU L	UNITS
			CLASSES
		MMR L	RELATIONS
MFS	MSS L	MMS L	SYSTEMS
MFT			TRANSFORMATIONS
	MSI L		IMPLICATIONS

"D" DIVERGENT PRODUCTION

FIGURAL	SYMBOLIC	SEMANTIC	
	DSU	DMU	UNITS
DFC			CLASSES
		DMR	RELATIONS
		DMS H	SYSTEMS
	DST	DMT	TRANSFORMATIONS
		DMI L	IMPLICATIONS

"E" EVALUATION

FIGURAL	SYMBOLIC	SEMANTIC	
EFU H		EMU	UNITS
			CLASSES
EFR	ESR L	EMR H	RELATIONS
EFS H		EMS L	SYSTEMS
		EMT L	TRANSFORMATIONS
EFI			IMPLICATIONS

"C" COGNITION

FIGURAL	SYMBOLIC	SEMANTIC	
CFU H		CMU	UNITS
CFC H	CSC L	CMC H	CLASSES
CFR	CSR	CMR	RELATIONS
CFS	CSS	CMS H	SYSTEMS
CFT H		CMT L	TRANSFORMATIONS
CFI H		CMI H	IMPLICATIONS

"N" CONVERGENT PRODUCTION

FIGURAL	SYMBOLIC	SEMANTIC	
NFU		NMU	UNITS
NFC		NMC L	CLASSES
NFR H	NSR	NMR H	RELATIONS
NFS	NSS	NMS	SYSTEMS
		NMT	TRANSFORMATIONS
NFI	NSI	NMI L	IMPLICATIONS

1) Learning takes place through cognition
2) Learned material is stored in memory.
3) Production of learned material
   a) Unchanged or convergent (encoded)
   b) Reoriented or invented (divergent)
4) Evaluation may be done of new or old learned material.

Adapted by Mary Meeker ©1963

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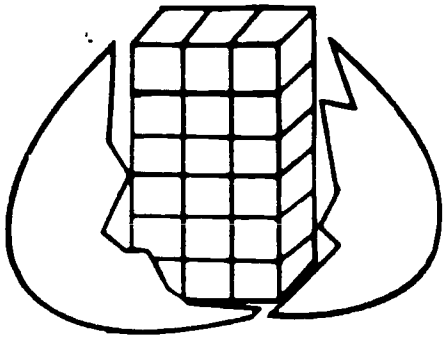

SUBJECT: Language Arts

GRADE LEVEL: Bi-lingual

K 1 2 3

MFR - 1

OBJECTIVE: The student will be able to develop the ability to memorize relations between items of figural information.

(MEMORY FOR FIGURAL RELATIONS)

See Exercise Sheet MFR - 1 for pictures.

Animal Matrix Game: Cut a piece of tag board into an 18-inch square. Using a marking pen divide the board into 9 squares. This matrix board will used for bath the study and test activities. Now cut 25 six-inch square pieces of tag board. These will be used to paste on the pictures used in the matrix. The following is how the matrix will appear for study:

MATERIALS — INCREASING IN SIZE →	ADULTS	BABIES	WHAT THEY EAT	
	CAT	KITTEN	BOWL OF MILK	CAT STORY
	DOG	PUPPY	BONE	DOG STORY
	HORSE	COLT	HAY	HORSE STORY

Test Matrix Picture Series: bird, baby bird (s) seed; rabbit, bunny carrat; cow, calf, grass; other animal pictures and ather items not required to complete matrix.

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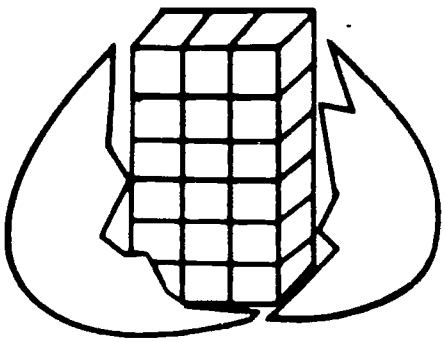
GENERAL: This Matrix Trend Recall task presents a 3 x 3 matrix for study. In each cell is an appropriate kind of figure. A certain relation applies in all rows and another in all columns. The child, having understood the relations, and seeing a starting figure in one cell on the test page, is expected to say what kind of figures should ga in the cells. Below the test matrix are 10 figures. The child should place the figures in the matrix in the proper relation as that established in the previously studied matrix. Matrix may be drawn on the floor ar playground for repeated game practice.

SPECIFIC:

INSTRUCTIONS

1. Present the Study Matrix ta the child.
2. Ask the child to study all the animal figures and to see how each row is arranged. Note: You may have to explain the relationship of each row and column depending on the needs of the child.
3. Allow the child to study the matrix for approximately 30 seconds.
4. Remove all figures from the matrix board and place only one of the figures in its proper cell as the starting figure.
5. Now give the remaining figures ta the child and ask him to place all of them in their proper cells.
6. After the child has mastered this aspect of the task, present test matrix and place one of the figures as the starting figure.
7. Now ask the child ta select the figures and complete the matrix.

NOTE: This task will bridge between figural and semantic abilities for readers.



SUBJECT: Language Arts

GRADE LEVEL: Any

K 1 2 3 4 5 6 7 8 9 10 11 12

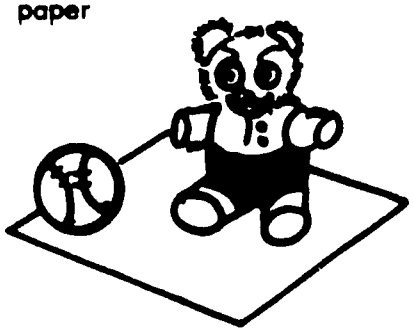
MFR - 2

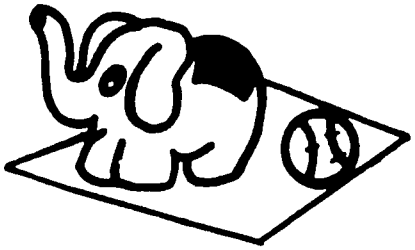
OBJECTIVE: The student will be able to develop the ability to memorize relations between items of figural information.

(MEMORY FOR FIGURAL RELATIONS)

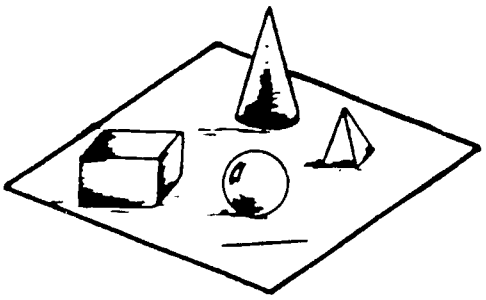
MATERIALS

Toys
Tools
Dinner wear
Kitchen utensils
Any appropriate objects for grade levels and abilities - i.e. geometric solid shapes
"Set ups," that is, two objects in a certain order or position on a mat or square of colored paper





With older children there can be several pairs to be remembered, i.e.



INSTRUCTIONS

GENERAL:

This task requires that the child remember the arrangement of figural items and be able to reproduce this arrangement employing the very same figural objects.

Note: The term "figure" will be used to indicate figural objects.

SPECIFIC:

1. Select the figures to be used in this task. Note: The figures should be appropriate for the student's age and background.
2. Arrange the figures in any desired configuration. Note: Employ two figures for younger students initially.
3. Present the display to the student.
4. Ask the student to study the arrangement of the figures and to remember how they were arranged.
5. Remove the figures and then give them to the student.
6. Ask the student to arrange the figures exactly as they were arranged before they were removed.

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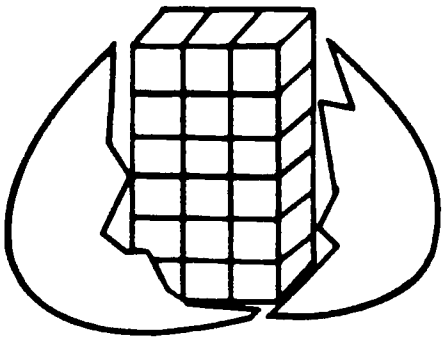


GRADE LEVEL:
K 1 2 3 4 5 .

EMS-1

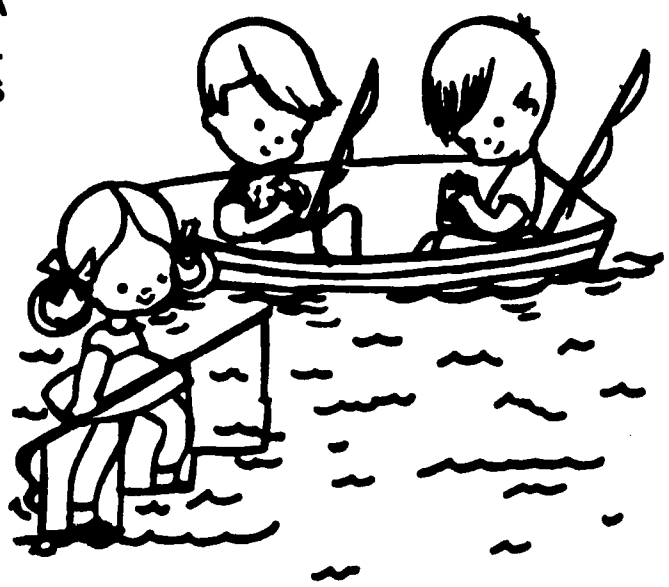
OBJECTIVE: The student will be able to develop the ability to judge the internal consistency of a complex of meaningful information.

EVALUATION OF SEMANTIC SYSTEMS

MATERIALS

Collect "What's wrong with this picture?" items suitable to grade level. They are not easy to find but some reading readiness materials and children's magazines do have these exercises. Collect pictures such as those below to make your own.

Make duplicates of EMS-1 worksheets to use as tests or training and discussion



INSTRUCTIONS

GENERAL:
"What's wrong with this picture?" or "What's absurd about this statement" are the kinds of tasks which give students exercise in developing judgment about incongruities.

SPECIFIC:

1. Present a picture or statement containing an incongruity to the student.
2. Ask him to find all of the pictured mistakes or absurdities.
3. Discuss why these things are absurd or foolish.

Note: The meaning of the words "absurd" and "foolish" may need some clarification for younger children or for children from disadvantaged backgrounds. Use a statement such as "Johnny got mad because the ball would not stay on the slanted desk top." Illustrate and discuss.

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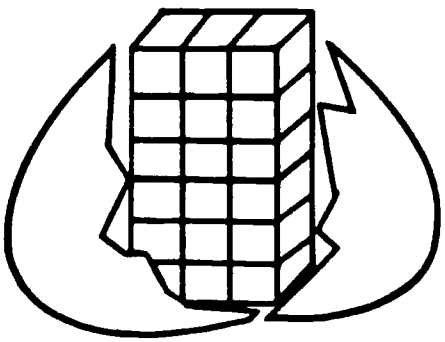

GRADE LEVEL:
K 1 2

EMS-2

OBJECTIVE: The student will be able to develop the ability to judge the internal consistency of a complex of meaningful information.

EVALUATION OF SEMANTIC SYSTEMS

MATERIALS

For background noise:
Popular recordings or tapes of music and comedy routines.
Musical instruments (rhythm)
Excerpts from essays or stories written on index cards. Select from grade level vocabulary words.
Use interesting bits of information with at least five ideas or facts.

INSTRUCTIONS

GENERAL:

You will want to increase the background noise in small increments. Begin with recordings of music, then add to that a comic routine and finally rhythm instruments. Each student should have repeated sequential trials with one, two and three background noises, depending on his ability. Stop when he fails.

SPECIFIC:

1. With the music going in the background each student will listen to a paragraph someone (the teacher in pre-reading classes) is reading.
2. Play a second record (or tape) halfway through the reading.
3. Student who is chosen to listen is to give as many facts or ideas as he can remember.
4. Increase stimuli in background by having one child play a rhythm instrument (sticks, drum, triangle, etc.) during the reading.
5. Student is to repeat step 3.

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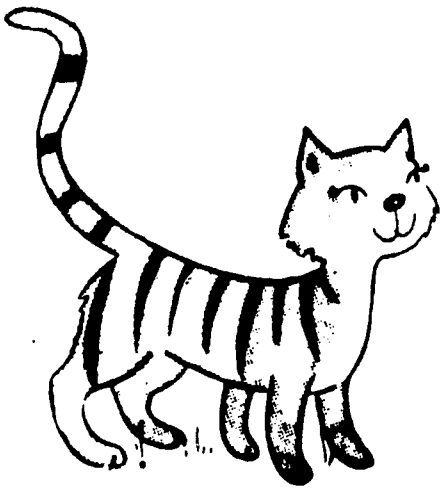
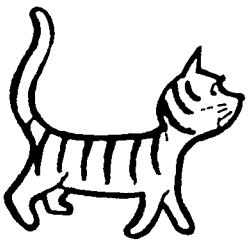
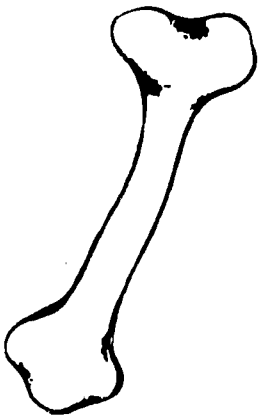
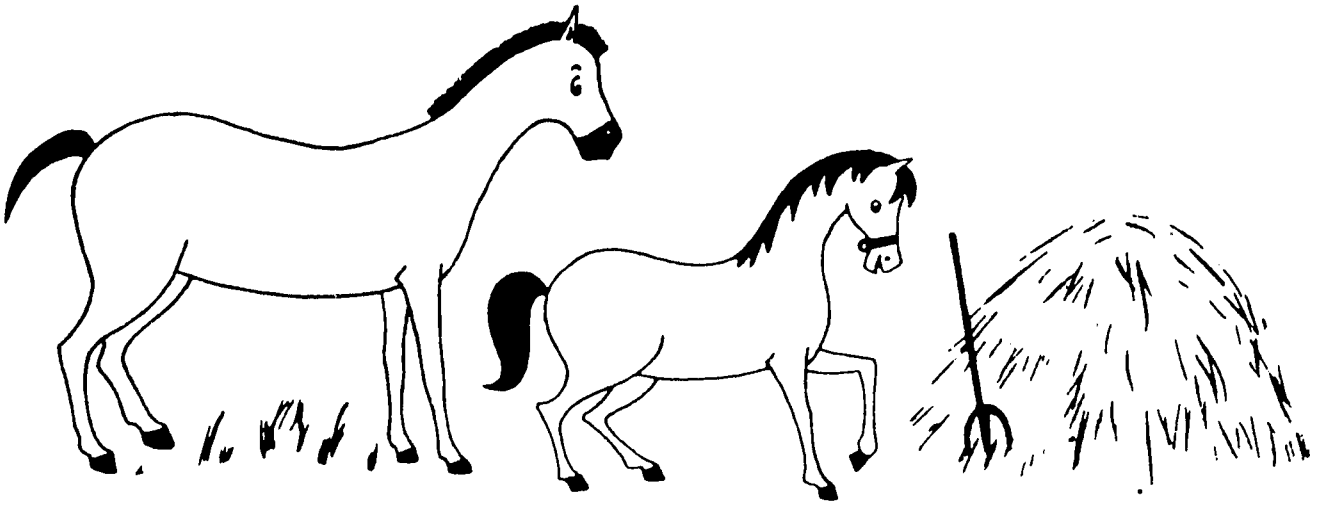








EXERCISE SHEET

PROFILE #3

Those blacks on the profile where no H or L is filled in are abilities in which the Mexican-Americans (Spanish speaking) were tested but for which there was no significant weakness or strength. For the purposes of planning curriculum, therefore, we would attend only to those abilities which have significance.

Since there are such pronounced strengths in all Figural Operations, we would predict greater success in school learning if a great portion of the day were spent learning school subject matter through figural inputs.

The low Memory responses would need special attention and repeated lessons which are fun ways to develop their memory.

Low EMS and EMT responses may well reflect cultural or folkway differences.

There are other profiles for groups of disadvantaged blacks, whites, and Mexican-Americans, aged 4-5 and 7-9.

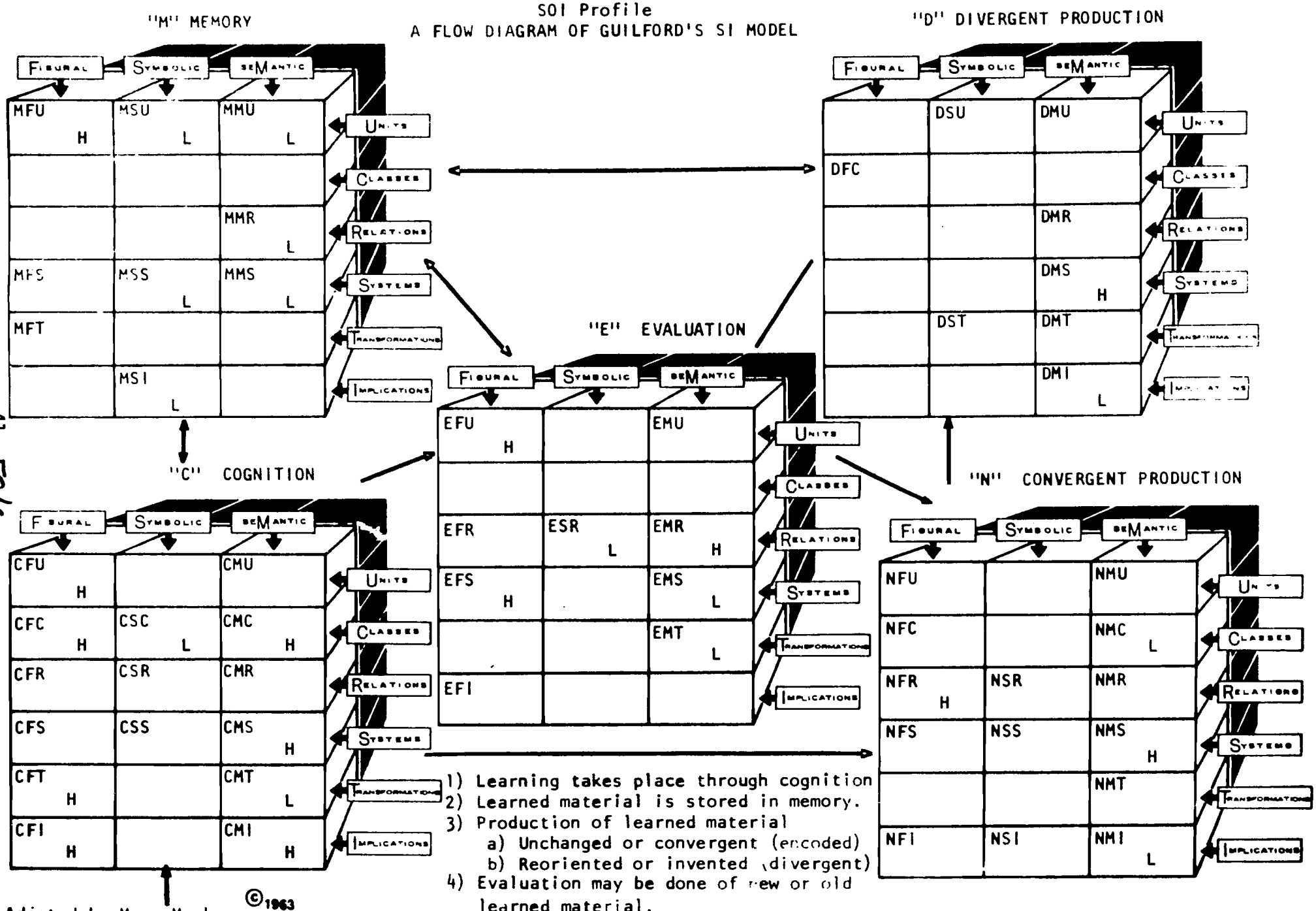
PROFILE AND TALLY SHEET FOR STANFORD-BINET LM
SOI TEMPLATES

PROFILE #3

IQ Range 79-113 . N = 37
Child's Name _____
Basal _____ Ceiling _____ IQ ___ CA ___
Mexican-Americans tested in Mexican Vernacular (Calif.)

STRUCTURE OF INTELLECT PROFILE

SOI Profile
A FLOW DIAGRAM OF GUILFORD'S SI MODEL



1) Learning takes place through cognition
2) Learned material is stored in memory.
3) Production of learned material
   a) Unchanged or convergent (encoded)
   b) Reoriented or invented (divergent)
4) Evaluation may be done of new or old learned material.

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PROFILE #4

Disadvantaged 4 to 5 year old blacks do not show the within group strengths in the figural dimension. They show a decided weakness in Symbolic Thinking. That is, they are not prepared by the preschool environment for handling numerical concepts. Therefore, the Convergent Production Appendix composed of Piaget tasks would be appropriate strategy for them before they are forced into arithmetic procedures. Interestingly, the school experience does contribute to learning here, for a comparison with a composite profile of 7 to 9 year old blacks indicates learned strengths (Meeker and Meeker, 1973), in the Symbolic dimension.

These boys are better prepared in Convergent Production than the Mexican-Americans.

PROFILE AND TALLY SHEET FOR STANFORD-BINET LM
SOI TEMPLATES

PROFILE #4

Child's Name Blacks (boys)
Basal _____ Ceiling _____ IQ ___ CA 4-5.

Range 78-135 N=31

STRUCTURE OF INTELLECT PROFILE

SOI Profile

A FLOW DIAGRAM OF GUILFORD'S SI MODEL

"M" MEMORY

FIGURAL	SYMBOLIC	SEMANTIC	
MFU L	MSU L	MMU	UNITS
			CLASSES
		MMR L	RELATIONS
MFS	MSS L	MMS	SYSTEMS
MFT			TRANSFORMATIONS
	MSI		IMPLICATIONS

"D" DIVERGENT PRODUCTION

FIGURAL	SYMBOLIC	SEMANTIC	
	DSU	DMU	UNITS
DFC			CLASSES
		DMR L	RELATIONS
		DMS H	SYSTEMS
	DST	DMT	TRANSFORMATIONS
		DMI L	IMPLICATIONS

"E" EVALUATION

FIGURAL	SYMBOLIC	SEMANTIC	
EFU H		EMU	UNITS
			CLASSES
EFR	ESR L	EMR H	RELATIONS
EFS		EMS L	SYSTEMS
		EMT L	TRANSFORMATIONS
EFI			IMPLICATIONS

"C" COGNITION

FIGURAL	SYMBOLIC	SEMANTIC	
CFU H		CMU H	UNITS
CFC H	CSC L	CMC H	CLASSES
CFR	CSR	CMR	RELATIONS
CFS	CSS	CMS H	SYSTEMS
CFT		CMT L	TRANSFORMATIONS
CFI		CMI H	IMPLICATIONS

"N" CONVERGENT PRODUCTION

FIGURAL	SYMBOLIC	SEMANTIC	
NFU L		NMU H	UNITS
NFC		NMC L	CLASSES
NFR H	NSR	NMR H	RELATIONS
NFS	NSS L	NMS	SYSTEMS
		NMT	TRANSFORMATIONS
NFI H	NSI	NMI L	IMPLICATIONS

1) Learning takes place through cognition
2) Learned material is stored in memory.
3) Production of learned material
   a) Unchanged or convergent (encoded)
   b) Reoriented or invented (divergent)
4) Evaluation may be done of new or old learned material.

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PROFILE #5

Four to five year old disadvantaged anglo boys also show low Memory Responses. One may ask whether, in light of evidence that all of the boys showed weak Memory ability, this is a characteristic of boys or an outcome associated with poverty in general. Etiology aside, Memory can be strengthened, but if this is to happen, then at least twenty minutes a day, three times a week, the schedule must include Memory training.

Hays and Pereira (1972) followed the above procedure with incoming first graders in 1970 in Redondo Beach and trained visual memory only. The children in the experimental group retained gains in reading throughout the next four years.

Gifted children identified as LLD (Learning Disabled) by Margaret Hibbits in Lompoc, California Schools and by Gertrude Volk and Harriet Shourd in Clayton, Missouri, Schools turned out (when SOI-Binet analyses were made) to be deficient in memory, though their scores indicated gifted.

Profiles of gifted children in general do not show group patterns. In fact, SOI profiles of any given number of same age, same sex, same score, children are as different as their faces.

SOI profiles of children who score in the retarded range also differ similarly. In fact, one unpublished study by Robert Williams in Tracy, California, studied EMR's who were retarded and whose pre and post SOI profiles were compared. An interesting finding occurred but because of lack of facilities was not documented. The trend seemed to be this: Students whose IQ scores raised above the EMR level had pre-profiles which had one or more dimensional strengths.

Students whose profiles showed scattered plusses and minuses with rather flat Operations', Contents' and Products' accumulated totals had not made increases in IQ score. Not that the raising of a score is a holy feat; it isn't, but when no special academic treatment was given and some students do get out of EMR class placement, then we need to understand what variables may have contributed. We have concluded then that if any SOI strength exists, then we can use this as a beginning point both for strengthening the ability there (for this may have interest and motivational meaning as well as predictable vocational counselling) and for tying weak abilities to strengths contiguously.

PROFILE AND TALLY SHEET FOR STANFORD-BINET LM
SOI TEMPLATES

PROFILE #5

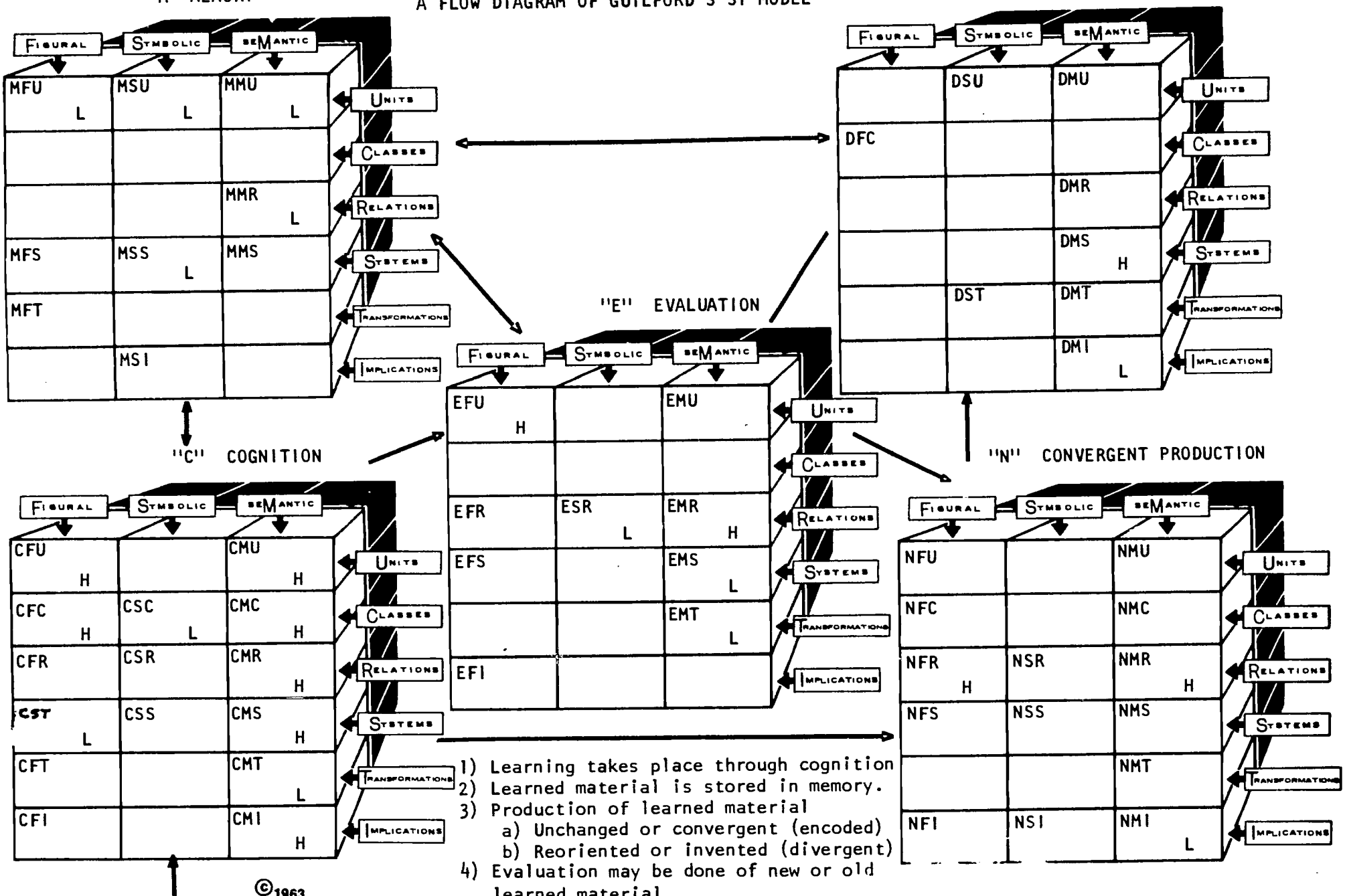
Child's Name Anglos 4-5
Basal _____ Ceiling _____ IQ ___ CA ___

STRUCTURE OF INTELLECT PROFILE

IQ Range 80-132
N=33

SOI Profile

A FLOW DIAGRAM OF GUILFORD'S SI MODEL



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4) Evaluation may be done of new or old learned material.

Adapted by Mary Meeker ©1963

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PROFILE #6

There are two more profiles which we need to discuss: One is that which California calls the E. H., Educationally Handicapped learner. The other is frequently identified as the MBD, Minimally Brain Damaged.

The E. H. learner has been found to demonstrate Memory failures combined with weak abilities in the processing Units of information. Therefore, some time each day, the curriculum for E. H. children should include tasks to train Memory and Units (all operations).

PROFILE #7

THE MONDAY-TUESDAY BRAIN DAMAGED CHILD

Here is one example of an MBD child. Mike could not control himself in this third grade class. His aggressiveness had been well known through all three grades to those teachers who daily discussed their students' behavior problems in the teacher's room. His current teacher didn't know what to do with him. Not only was he disruptive; he banged kids on the head for the pleasure of it. Unprovoked, he would lash out, trip or pummel boys and girls alike so he had no friends. He would not remain in his seat, he would tear up any papers if he did not understand or when he made a mistake on them.

His SOI profile indicated no particular strengths or weaknesses. His score was 117. We concluded that he was what we called a Monday-Tuesday Brain Damaged Child because by Wednesday he had settled in and school provided a secure structure his emotionally-charged home could not. Thus we could rule out Area I problems and look to Area II for understanding.

Research is now ongoing to chart other known Brain Damaged children, dyslexic and aphasias. Margaret Frankl and I are involved in finishing a book covering the seventeen aphasias showing SOI profiles where neurological diagnosis has been confirmed.

Sometimes patterns will show up on the accumulated totals graph and sometimes on the raw profiles, but for classroom purposes the individual profiles are the most useful. Workbooks developed for this purpose have been used successfully as have two other teaching strategies we have developed at the SOI Institute. One is an Arithmetic Machine based on Piaget and Guilford Constructs.

Then we have an alphabet kit which through the teaching of CFU, CFC, MFU, MFC, EFU, and EFC develop reading and spelling skills.

One last finding, never published, by Lenore McGuire, Miles Rogers and myself concerned Hays-Binet SOI Patterns on blind-from-birth students. With a range of 56 to over 170, those students at Braille Institute, Los Angeles, with IQ's under 140 showed Figural and relational weaknesses. This was not found in students with scores over 140. However, all showed Memory Strengths.

In conclusion, the paradigm offered here may help us avoid continuation of inadequate diagnosis in the schools.

Let me quote a young physician who chose to become a general practitioner. He said, "What would it be like to be a physician and take care of only those people who have no illness? Ponder this: What the educational system is really doing is culling the scholastic achiever as a rancher culls his cattle. The scholar was probably developed in the first five to six years of life; therefore, the schools are not contributing to his basic development as an achiever. It requires no real talent to teach students who come to school already endowed with the ability to achieve academic success--just as any physician can doctor people who are already well. Frankly, our society is not blessed with many teachers who are true mentors, because they are not trained to teach, they are trained to transmit the known." (W. S. Nacol, II, M.D., Seymour, Texas)

Dr. Nacol's son was an MBD child who, misdiagnosed, was a failure in Reading and English but who made A's in calculus and geometry; a perfect SOI profile with failures in the Semantic dimension, success in the Figural and Symbolic dimension, but for whom treatment was not forthcoming.

There is no question that reform is needed in education. The best indication that this is so is seen when any system begins to break down.

We need to look at the institution of education from the eyes of current knowledge. We need to select from the theory and technology of today to develop an Ecology for Education.

APPENDIX A

Mary Meeker, Ed.D
Loyola Marymount University

This is how it is with me:

		Never			Sometimes		Always
		0	1	2	3	4	5
I.	A.	I catch on to new things before most people					
	B.	I may not integrate it, but I can follow most things I hear or see					
	C.	I remember well things I need to know for a few seconds					
	D.	I can cram or recall things I need to remember only for a few hours or days					
	E.	I can well recall things I studied long ago; most things stay with me					
	F.	When I drive I plan ahead					
	G.	I am well organized and have better judgment than most people					
	H.	I made mostly A's in school					
	I.	I can solve problems well if I know the rules or principles involved					
	J.	I am creative in decorating and dressing					
	K.	I come up with unusual, unique ideas					
	L.	I am sensitive to the feelings of others without being told					
	M.	I think faster than most					
	N.	I talk faster than most					
	O.	I see the funny side of things sooner than most					
II.	A.	As an adult I have fewer problems than my friends					
	B.	I have no resentment about working harder or extra time					
	C.	My home environment is a comfort to me, a haven					
	D.	My life runs more smoothly than my friends'					

This is how it is with me:

			Never			Sometimes		Always
			0	1	2	3	4	5
II.	E.	I've grown to change my early values						
	F.	I've overcome many of the worries that bothered me when I was younger						
	G.	I am able to give in more than most people						
III.	A.	I have excellent eyesight with correction						
	B.	I am good with solving problems with my hands						
	C.	I have excellent hearing						
	D.	Illness and fatigue characterize me						
	E.	I have more energy than most people						
	F.	I prefer sports to other things						

KEY:

Area I or Cognitive Abilities

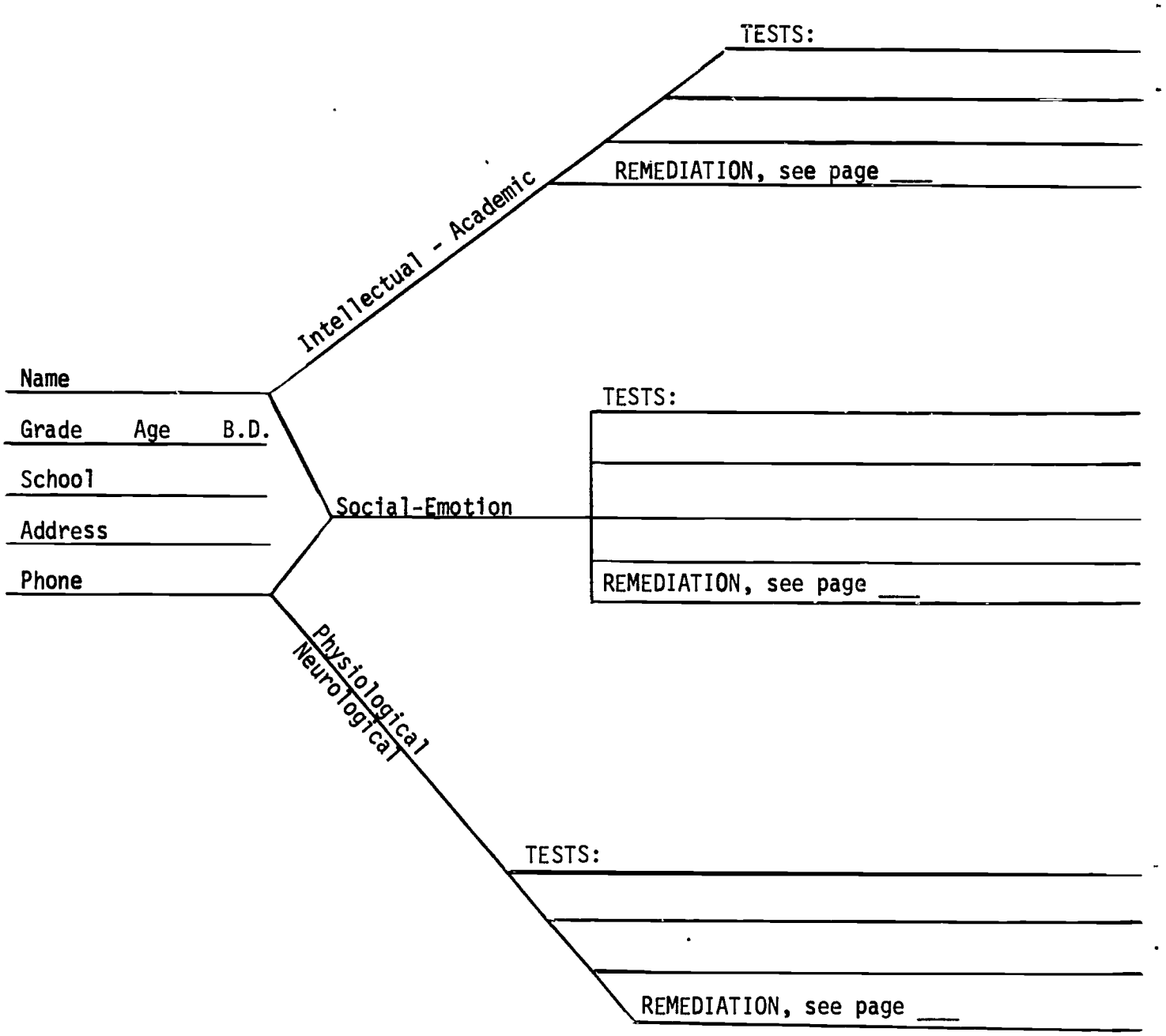
A - B indicate Cognition (Comprehension) functioning
C - E indicate Memory functioning
F - G indicate Evaluation functioning
H - I indicate Convergent Production functioning
J - O indicate Creativity (Divergent Production) functioning

Area II is an approximation of your social, emotional functioning

Area III indicates your general physical handling of the environment

COVER SHEET FOR PARADIGM BASED CASE STUDY

Summary of Tests, Analyses and Remediation or Intervention



APPENDIX C

PRESCRIBED ACTIVITIES FOR COGNITIVE SKILLS

Name _____ Date _____ Grade _____

PSYCHOMETRIC DATA:

BINET _____ OTHER _____ C.A. _____

WISC Verbal _____ Performance _____ Total _____

SOI DATA: (From cells in SOI Profile)

WEAK ABILITIES: (Write in cells with minus signs , etc.)

COGNITION:	_____	_____	_____	_____
	_____	_____	_____	_____
MEMORY:	_____	_____	_____	_____
	_____	_____	_____	_____
EVALUATION:	_____	_____	_____	_____
	_____	_____	_____	_____
CONVERGENT PRODUCTION:	_____	_____	_____	_____
	_____	_____	_____	_____
DIVERGENT PRODUCTION:	_____	_____	_____	_____
	_____	_____	_____	_____

STRONG ABILITIES:

COGNITION: _____

MEMORY: _____

EVALUATION: _____

CONVERGENT PRODUCTION: _____

DIVERGENT PRODUCTION: _____

COMMENTS: Select tasks from the SOI Abilities Workbooks coded to fit the above samples. Administer SOI Pre-tests for in-depth diagnosis.

Attach SOI profile and accumulated totals of operations

M. Meeker, 80th and Univ. Pl., Loyola-Marymount University of Los Angeles 90045

APPENDIX D

DEFINITIONS OF FACTORS COMPOSING THE STRUCTURE OF INTELLECT

Major Processes

(Intellectual activities which the individual does with information)

(c) COGNITION: Discovery, awareness, rediscovery, or recognition of information in various forms; comprehension; understanding

(M) MEMORY: Retention of information in any form

(N) CONVERGENT PRODUCTION: Generation of information from given information, where emphasis is upon reproducing conventionally accepted or achieving best outcomes

(D) DIVERGENT PRODUCTION: Generation of information from given information, where the emphasis is upon variety of output from same source. (Innovation, originality, unusual synthesis or perspective)

(E) EVALUATION: Reaching decisions or making judgments concerning the correctness, suitability, adequacy, desirability of information in terms of identity, consistency, and goal satisfaction

Contents

(General varieties of information)

(F) FIGURAL CONTENT: Information in concrete form, as perceived or as recalled in the form of images; "figural" implies some degree of organization or structuring

(S) SYMBOLIC CONTENT: Information in the form of signs, having no significance in and of themselves, such as letters, numbers, musical notes

(M) SEMANTIC CONTENT: Information in the form of meanings to which words commonly become attached, hence most notable in verbal thinking; involved in verbal tests, where things signified by words must be known

(B) BEHAVIORAL CONTENT: Information essentially nonverbal, involved in human interactions, where awareness of attitudes, needs, desires, intentions, thought, etc., of other persons is important

Products

(Results from individual's processing of information)

(U) UNITS: Segregated or circumscribed items of information having "thing" character

(C) CLASSES: Aggregates of items of information grouped by common properties

(R) RELATIONS: Recognized connections between units of information based upon variables that apply to them

(S) SYSTEMS: Organized or structured aggregates of items of information; complexes of interrelated or interacting parts

(T) TRANSFORMATIONS: Changes in existing or known information or in its use, as in production

(I) IMPLICATIONS: Extrapolations of information, in the form of expectancies, predictions, antecedents, and consequents

9-70-1000

APPENDIX E

GLOSSARY FOR SOI FACTOR DEFINITIONS

COGNITION

CFU - Ability to identify objects by name, visually and auditorially
CFC - Classifies perceived objects
CFR - Ability to discover relations in perceptual material
CFS - Perceives spatial patterns and maintains orientation
CFT - Manipulates or transforms objects into another visual arrangement
CFI - Explores visually ways to select most effective action

CSC - Discovers complex relationships, patterns, or systems
CSR - Discovers relations involving letter patterns
CSS - Ability to discover complex relationships forming patterns or systems

CMU - Vocabulary
CMC - Ability to identify classes of words
CMR - Discovers relations in conceptual, abstract meanings
CMS - Ability to comprehend or structure problems in preparation for solving them
CMT - Sees several meanings to a word or expression
CMI - Anticipates needs or consequences of a given situation

MEMORY

MFU - Recalls materials learned by visual and auditory presentation
MFS - Recalls arrangement of objects previously presented

MSU - Recalls for immediate production after one presentation a series of numerals or letters
MSS - Memory for a system of numerals, symbols or letters
MSI - Memory for well-practiced number operations

MMU - Reproduces previously presented ideas or words studied
MMR - Remembers meaningful pairs of words
MMS - Remembers order of materials or events presented visually or auditorially

EVALUATION

EFU - Ability to identify identical forms
EFR - Ability to evaluate figural relationships
EFS - Ability to evaluate and decipher systems, beginnings and ends
EFI - Sensitive to problems, spatial, seeing defects and deficiencies and suggesting improvements

ESR - Decides which symbol relations are consistent with others in a series

EMU - Ability to apply varied word meanings
EMR - Uses logical relationships in testing correctness of conclusion
EMS - Appraises aspects of common situations in terms of experience
EMT - Practical judgment about ideas

CONVERGENT PRODUCTION

NFU - Ability to comprehend and reproduce an observed bit of behavior
NFC - Ability to sort or classify
NFR - Ability to deduce figural relationships
NFS - Reproduces a system of figural design

NSR - Finds nonverbal response to fulfill a given relationship between numerals or letters

For use with Binet LM templates

NFI - Ability to solve simple equations in terms of familiar forms
NSS - States the order of symbolic systems from start to goal correctly
NSI - Substitutes or derives symbols as expected

NMU - Ability to state correct names of concepts and ideas
NMC - Forms correct groups from a large number of words or objects
NMR - Ability to correlate semantic representation
NMS - Arranges objects or events into a meaningful sequence
NMT - Shifts function of objects or part of something to use in a new way
NMI - Ability to state the correct deduction from given facts

DIVERGENT PRODUCTION

DFC - Reclassifies perceived objects in various ways

DSU - Produces words fulfilling specified structural requirements
DSR - Generates a variety of relations between numbers or letters
DSS - Produces symbolic systems in unique ways

DMU - Ability to call up many ideas in a specified class
DMR - Produces words from given words as synonyms, or as associated words
DMS - Analogical completions
DMT - Ability to produce remotely associated, clever, or uncommon responses
DMI - Specifies details that develop a scheme or variation of an idea

Divergent production and the transformation and implications dimensions are all indicators of creative potentials. A balance of two or more plusses or minuses is significant for program planning.

APPENDIX F

Accountability: A PARADIGM FOR AN EDUCATIONAL THERAPY PLAN

Mary Meeker, Ed.D.

I. Area I Functioning

   A. Academic Objectives

   B. Intellectual Objectives

   C. Language, Linguistic Objectives

II. Area II Functioning

   A. Objectives for Growth in Social Development

   B. Objectives for Emotional Growth

   C. Objectives for Environmental Changes

   D. Objectives for Motivational Needs

III. Area III Functioning

   A. Objectives for Physiological Growth

      1. Remedial PE

      2. Psycho-motor

      3. Visual - Perceptual

      4. Auditory

         a. Speech
         b. Hearing

   B. Neurological reference: medication_____ or Testing_____ (Check one)

   C. Nutritional Program

      1. Referral Out

      2. School lunch or Breakfast program

REFERENCES

Ball, Rachel, Comparison of Thinking Abilities of Five-Year-Old White and Black Children in Relation to Certain Environmental Factors, Arizona State University Final Report Project 9-70-0067, May 1972.

Brown, D. L., Variations in Test Response of Preschool Children by Sex and Socio-economic Level Related to Guilford's Structure of Intellect, Unpublished doctoral dissertation, University of Pittsburgh, 1971.

Brown, Darrell L., A Study of Preschool Responses to the Stanford-Binet Scale, doctoral dissertation, University of Pennsylvania, Unpublished.

Cooper and Whiteed, Psychological Concepts in the Classroom, Harper & Row, 1973.

Feldman, B., Prediction of First-Grade Reading Achievement from Selected Structure of Intellect Factors, Unpublished doctoral dissertation, University of Southern California, 1970.

Gearheart, B. R., Learning Disabilities Educational Strategies, C. V. Mosby Co., St. Louis, Missouri, Appendix B Publishers of Professional Books and Suppliers of Material and Equipment for LD pgs.

Hays, B. M. and E. R. Pereira, Effect of Visual Memory Training on Reading Ability of Kindergarten and First Grade Children, *Journal of Experimental Education*, 1972, 41 (1), 33-38.

Karadenes, M., A Comparison of Differences in Achievement and Learning Abilities Between Anglo and Mexican-American Children When the Two Groups Are Equated by Intelligence, Unpublished doctoral dissertation, The University of Virginia, 1971.

Manning, E., Teaching Divergent Thinking to Gifted Children, Title III Project, Whittier, California, East Whittier Schools, 1972.

Meeker, M., SOI Workbooks: Cognition, Memory, Evaluation, Convergent, Divergent, SOI Institute, 214 Main Street, El Segundo, California 90245, 4th Edition.

Meeker, M. N., The NSWP Behavior Samplings of the Binet. Paper presented at the meeting of the American Psychological Association, Philadelphia, September 1963.

Meeker, M. N., A Procedure for Relation Stanford-Binet Behavior Samplings to Guilford's Structure of the Intellect. *Journal of School Psychology*, 1965, 3, 26-36.

Meeker, M., Differential Syndromes of Giftedness, *Journal of Special Education*, 1963, 2 (2), 185-194.

Meeker, M. N., The Structure of Intellect: Its Interpretation and Uses, Columbus, Ohio: Charles E. Merrill, 1969.

Meeker, M., An Evaluation of a High School Educationally Handicapped Class: A Two-Year Follow-up of the Measurables and Unmeasurables. *In Educational Therapy,* Seattle: Special Child Publications, 1971.

Meeker, M., and R. Meeker, Strategies for Assessing Intellectual Patterns in Anglo and Mexican-American Boys Aged 4-5 and 7-9, *Journal of School Psychology,* Vol. II, No. 4, 1973.

Meyers, C. E., H. F. Kingman and R. E. Orpet, Four Ability-factor Hypothesis at Three Preliterate Levels in Normal and Retarded Children. Monograph of the Society for Research in Child Development, 1964, 29,5.

NEA-Project LIFE, THINKING ACTIVITIES FILM STRIPS, SOI Based, Dr. Glenn Pfau.

Nye, M. Lennon, Dietary Treatment and Cognitive Development of Galactosemic Children as Analyzed with the SOI, unpublished dissertation, USC, 1973.

Orpet, R. E. and C. E. Meyers, Six Structure-of-Intellect Hypotheses in Six-Year-Old Children, *Journal of Education Psychology,* 1966, 57, 341-346.

Schwartz, G. and N. Tracy, Language-Learning System and Learning Disability. New York: Simon and Schuster, 1970.

Sitkei, G., Comparative Structure of Intellect in Middle and Lower Class Four-Year-Old Children in Two Ethnic Groups. Unpublished doctoral dissertation, University of Southern California, 1966.

Wood, Nancy, Verbal Learning. San Rafael, California: Dimension Publishing Company.

LEARNING CENTERS AND INDIVIDUALIZED INSTRUCTION

by Mercedes Newsome*

These are LAP's which were demonstrated. Some LAP's follow.

I. Learning Activity Package

A. Definition

B. Parts of a LAP

1. rationale
2. performance objectives
3. pre-test
4. the instrument

a. activities
b. visual aids
c. other references (books, etc.)
d. post test
e. evaluation

C. Disadvantages

D. Advantages

II. Interest Centers

A. Kinds of Centers

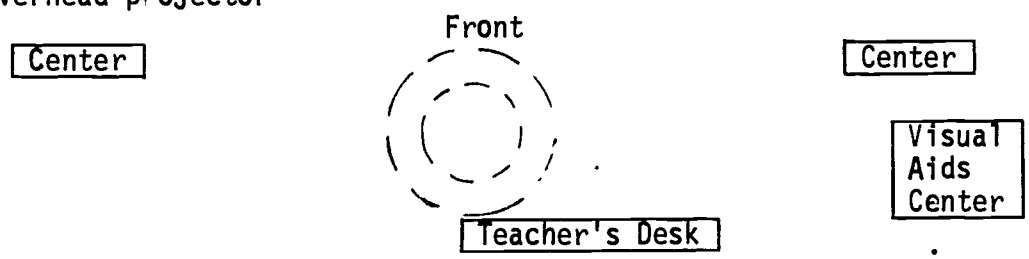
1. special centers
2. hodgepodge

B. Arrangement of Centers

1. labels
2. tables

Needs:

2 tables
Filmstrip projectors (individual viewers)
Listening centers (ear phones)
Record player
Masking tape
Overhead projector



*Mrs. Newsome teaches in New Hanover County Schools. She attended the 1973 Teacher Training Institute at the Governor's School.

LEARNING ACTIVITY PACKAGE*

"Evangeline"

My concerns for your reading this narrative poem are to:

1. Provide you with visual representation of the history of people during the French and Indian War
2. Increase your understanding of literary works
3. Provide you with practical material to help increase your vocabulary, critical evaluation, discussion skills and understanding of symbolism.

You may use your personal copy of "Evangeline," use a paperback edition or read the poem in our literature book. When you finish your study of this poem, you will be able to:

1. Read creatively
2. Define and give examples of the following: dactylic hexameter, figurative language, personification, simile, metaphor, narrative poem, symbol
3. Improve your vocabulary
4. Make character analyses
5. Describe historical background
6. Discuss meaningfully
7. Use symbols to express the central theme.

Before you read: This narrative poem is about two young lovers who were separated by the king of England's stern orders to evacuate the citizens of the peaceful Acadian village Grande Pré.

A poem that tells a story is a narrative poem. It follows a definite pattern: opening, development, climax and closing.

The poetic form of Evangeline is unrhymed dactylic hexameter. Example:

This is the / forest pri / meval. The / murmuring /
pines and the / hemlock. Ye who be / lieve in af / fection
that / hppes, and en / dures, and is / patient

Terms:

1. dactylic foot - a foot made up of an accented syllable followed by two unaccented syllables.
   Example: murmuring
2. foot - a metrical unit into which lines are divided in scansion; a brief pattern of accented and unaccented syllables.
   Example: ' = accented ˘ = unaccented
   Thou' fos' / tĕr child' / ŏf
3. figurative language - words used to refer to something they don't mean literally.
   Examples: Mother, you're an angel. (Mother

*Prepared by Mercedes Newsome, New Hanover County Schools

is not an angel. She might have ways like an angel.)
She didn't get to first base with her answer.
Explain to the teacher or a classmate.

4. personification - a figure of speech metaphorically giving human qualities to something non-human.
   Example: The spring flowers spoke softly to each of us.

5. metaphor - an implied comparison between two things based on one or more qualities they share.
   Example: Benedict was an oak tree covered with snow.

6. simile - an explicit comparison between two things using "like" or "as" or a similar connective.
   Examples: Benedict's cheeks were as brown as autumn leaves.
   Leblanc's yellow hair was like corn floss.

7. symbol - an object or event that stands for something else.
   Example: flag - country

Activity I - Find out from a neighbor, friend or your parent if they have ever been forced to leave their homes. What problems did they encounter? How did they solve their problems? Keep the answer to these questions in mind as you read.

Activity II - Filmstrip "Evangeline." We will discuss the filmstrip later. (Introduction by the teacher) Now turn to page 246 in your text. Read Part I, section I - II silently. When you finish reading, we will have a group discussion and we will have a written review to check your understanding. We will follow the same directions for other sections in part I and all of part II.

Activity III - Re-read the poem silently, then you and some classmates read portions which you like to each other orally.

Activity IV - Answer in small group or you may work alone. This will be placed in a booklet. The cover of your booklet is another activity. (Work some each day on these questions two weeks.)

1. Describe Acadia.
2. Where is it located?
3. Describe some of the aspects of Acadian life: farms, houses, marriage contracts, meal, women's dress, etc.
4. There are over eighty examples of similies in this poem. List at least ten. (a) List examples of personification. (b) List examples of a metaphor.
5. How did the author describe the unsettled Middle West, Mississippi region, Philadelphia?
6. Bonus - Why did the English want the Acadians to evacuate Grande Pré?
7. Circle "Grande Pré" on the map in red.
8. Describe each of the following characters: Evangeline, Gabriel, Basil, Benedict, René Lablanc, Shawnee woman, the Indians.

9. Were there any villains in the story? Who were they?
10. Write a brief biographical sketch of the author Henry Wadsworth Longfellow.

    a. Did he write the poem during the French and Indian War?
    b. Bonus - What motivated him to write the poem?

Activity V - Vocabulary

Underline any new word that you meet in the story more than two times. Proceed in this manner after you finish reading.

1. Look up each word in a good dictionary.
2. Say it aloud; note its spelling.
3. Check the source of the word, its etymology, (read in your English textbook on the etymology of words, pages 6-14) its breakdown into prefix, stem or root and suffix (if any).
4. Go back to the original sentence and decide what meaning was most appropriate.
5. Copy the sentence from the book. Rewrite the sentence using the new word.

Example: Group I - Chaplet - The word comes from old French chapelet (little hat) derived from Latin coppa (hat or garland for the head). While the word is still used for a wreath for the head, it is frequently used to mean a string of beads. In the Roman Catholic Church, a chaplet means rosary beads, used in praying.

Sentence: Fingering her chaplet in the window's...etc.
Fingering her rosary beads in the window's...etc.

Group I	Group II	Group III
seraglio	turbulent	flagons
jovial	mutation	turret
tankard	distended	missal
embrasure	supernal	shards
ambrosial	dissonant	cumbrous
kelp	solstice	resplendent
mammoth	tenebrous	kine
bayous	precipitate	pillaged
oracular	hapless	brackish
	abnegation	wicket

You will be given a test on each group of words.

Activity VI - Write and act out a twentieth century "soap box opera" on Evangeline OR draw a cartoon of a twentieth century Evangeline 12 by 18 inches. Cartoons must be done individually. You may work in groups on the "soap box opera."

*You must design a book jacket that symbolizes the central idea of Evangeline. You may draw your own symbols or you may find pictures in the newspapers or magazines. All the answers to the questions in this LAP should be placed in your booklet.

*Reminder - A symbol is any event or object that stands for something else.
Examples: rose - beauty
flag - country
arrow through the heart - love
skull - death

You may illustrate any of the section of poem for bonus points.

*Materials: dictionary, the poem, ruler, poster paper, construction paper, LAP.

LEARNING ACTIVITY PACKAGE:

Field Trip--Williamsburg, Virginia

Itinerary

	Observers:	Places
1.	Bess	Wilmington - Hampstead
2.	Lori	Hampstead - Holly Ridge
3.	Carlos	Holly Ridge - Dixon
4.	Gene	Dixon - Jacksonville
5.	Lucia	Jacksonville - Maysville
6.	Carol	Maysville - Pollocksville
7.	Terri Brown Denise Higgins Katherleen	Pollocksville - New Bern
8.	LaVanda	New Bern - Vanceboro
9.	Karen (Martha)	Vanceboro - Chocowinity
10.	Julia	Chocowinity - Washington
11.	Marguerite	Washington - Mineola
12.	Jim (Kevin)	Mineola - Williamston
13.	Jerry, Laura	Willimaston - Windsor
14.	Tina, Kathy, Kim F.	Windsor - Ahoskie
15.	Greg	Ahoskie - Winton
16.	Player, Carmen	Winton - Whaleyville, Virginia
17.	Larry	Whaleyville, Va. - Suffolk, Va.
18.	Earl	Suffolk - Benns Church
19.	Paul	Benns Church - James River Bridge
20.	Denise S.	James River Bridge - Colonial Parkway
21.	Alan, Mary Elizabeth	Colonial Parkway - Jamestown
22.	Kim, Marion	Jamestown - Willimasburg

Activities--Williamsburg Trip

Part I. Observers - What you see as you observe will be presented to our language arts class in the form of poetry, a short story, informational paragraphs or a T.V. show.

Part II.
1. Name the North Carolina Counties that we pass through while traveling.
2. Name major bodies of water that we crossed.
3. Can you tell anything about the economic system of this section of North Carolina from your observations?
4. Where did we cross the Virginia Line?
5. How many toll bridges did we cross? Where?
6. Make the sign for interstate highway, United States highway and state highway. Most of our trip was made on _____ highway.

Part III. How did economic, political and social systems of Jamestown differ from the economic, political and social systems of Williamsburg? What do you think caused the difference?

Part IV. Pick out one thing that interested you most about Colonial life and do a report for class. Information should only come from our trip.

Part V. Do the descriptions of colonial life in our text differ from what you saw at Jamestown and Williamsburg? Explain.

Part VI. Save for unit of Revolution

1. As you observe the battlefield at Yorktown, plan an offensive attack for Cornwallis that would have made England the victor.
2. As you observe the battlefield, would you have surrendered as Cornwallis did or would you have tried something else?

LEARNING ACTIVITY PACKAGE:

The Revolution

This LAP should help you to understand the whole revolutionary movement: its leadership, organization, ideology, violence and propaganda. It should also help you to understand the distinct difference between rebellion and revolution. You will have an opportunity to view the revolution from the British side. The unit is not designed to make you a revolutionist or rebellious.

Before you begin this LAP read the entire LAP. You will find many objectives. These tell you what you are expected to know when you complete the LAP in about three weeks. You are not expected to do all the activities in the LAP. It would be to your advantage to complete as many of the optional activities as you can. If you have other ideas for activities, please let the teacher know about them.

When you finish reading the LAP, be sure to begin at once on learning task 1. You must get a basic understanding before you can do any of the activities. If you have any questions, please confer with your teacher.

Since propaganda played such an important role in this conflict, I have a fifteen minute lecture for you on propaganda. Filmstrips and reference books are located on the book shelves. A library pass is on my desk. (Only three people to leave the room at one time.) Please leave a brief summary of what you did in the library on my desk. Worksheets to check your understanding of the unit in the text are on my desk. You may wish to discuss in small groups this unit. A chapter test will be given after each discussion period. A unit test will be given when we complete the material in the text.

Objectives I: You will acquire background knowledge about the American Revolution.

You will acquire knowledge in order that you will be able to do other activities in this unit productively.

You will acquire knowledge in order that you will be able to make some predictions and judgments about social living now.

Task I: After a brief discussion on the bulletin board title: Liberty and Justice 1776. - Liberty and Justice for All 1950's - 1960's; The film the American Revolution part I and part II; Patrick Henry's speech; excerpts from Martin Luther King's speeches; drawings by you on your reactions to the words rebellion or revolution, and your four line poems on "Conflict," read in your text chapter 7, pages 122-143. Do the exercises on pages 142-143. A chapter test will follow our discussion. Read chapter 8, pages 144-158. After you finish reading, follow the same pattern as above. Read chapter 9, pages 158-171, we will follow the same directions.

Objectives II: To evaluate North Carolina's role in the American Revolution.

In order to do this you will engage in the following activities:

1. Read chapter 10, page 160. Lefler, Hugh and Patricia Stanford. North Carolina. Second Edition.
2. Prove that the citizens of North Carolina were not opposed to taxes in the 1700's but to the manner in which they were imposed. Be able to support your theory orally.
3. Prove that the loyalist of North Carolina were not traitors (or they were traitors). Be able to defend your position orally.
4. Make a list of the things the citizens did at home to help during the Revolution.
5. On an outline map located in the LAP: locate Edenton, N. C., Kings Mountain, Guilford Courthouse and Halifax. Why is each place important to the revolutionary period? Answer on the bottom of the outline map.
6. Wilmington is a very historical city. Find as many revolutionary monuments as you can. It might be a good idea to begin on Market Street. Describe the monument and list the location by street name.

7. Moore's Creek near Wilmington is a National Park and is dedicated to this period in history. Why? Write your answer.

8. We have had several protest groups in North Carolina. Do any of them remind you of groups during the revolutionary period? How? Write your answer in two or more paragraphs.

9. The class will take part in an inquiry activity: Did the American Revolution Begin In North Carolina?, by Tom and Barbara Parrance, North Carolina State University, Raleigh, North Carolina.

Objective III: To expose you to the British point of view during the revolutionary period.

Materials: Books to help you are in the school's library and in the class. I will not give you titles or pages in order that you may get experience in locating materials.

Activities:

Select one of the three activities below and prepare your report in writing first and then be prepared to discuss your report in the class. (Please remember that you are all English now and you live in England.)

1. Discuss in writing the economic conditions in England 1607-1764. Include in your discussion the following: The Mercantile Theory, Navigation and Trade Acts , Registration of Vessels, Restrictions on the following articles: woolen goods, rice, molasses, copper, naval stores, lots, beaver skins, copper ore, rum, sugar.

2. Discuss in writing the political system in England from 1607-1764. Include in your report the following: British attitude toward the colonies after 1763, Parliament's attitude toward internal and external affairs of the colonies; system of taxation, trade laws, officials for the colonies and the newly acquired land.

3. Discuss in writing the social order in Britain 1607-1764. Include the requirements for being in certain social classes in England and the slave system in England.

Objectives IV:

1. You will learn that Blacks participated in the American Revolutionary War; in the Navy, the Army and as spies.

2. You will also understand why you have so many sub-culture groups among Blacks in America today striving to achieve the same ends--economic security, complete liberty and equality of opportunity.

Materials: Filmstrips, books are on the shelf. Please check out the books. Your teacher has a form for you to complete when you check out a book.

Activities:

1. After reading from reference books express in writing the feeling of three of the following toward slavery 1764-1776:

   a. Continental Congress 1776
   b. Connecticut Legislature
   c. North Carolina Legislature
   d. Reverend Isaac Skillman's "Oration Upon the Beauties of Liberty"

2. Discuss the view points of "E" and one more of your choice from the four remaining viewpoints on slavery:

   a. Thomas Jefferson
   b. Anthony Benezet
   c. Benjamin Franklin
   d. Benjamin Rush
   e. Blacks of Bristol and Worchester, Massachusetts

3. Discuss in writing methods used by North Carolina, Virginia and Maryland to keep the slaves from running away at this time.

4. Discuss in writing how the Royal Governor of Virginia, Lord Dunmore, used slaves to cripple the Revolution.

5. Discuss in writing at least three successful flights of slaves from 1775-1783.

6. Discuss what North Carolina did to paralyze the flights of slaves.

7. Discuss in writing the attitude of the Revolutionary Navy toward Blacks.

   a. Name some of the Blacks who served in the Revolutionary Navy.
   b. How did they serve?

8. Discuss in writing the attitude of the Revolutionary Army toward Blacks.

   a. Name some of the Blacks who served.
   b. What kind of rules did they follow?
   c. What rewards did they receive?

9. Discuss the reason Blacks were so invaluable as spies during the Revolutionary War.

   a. Name some of the Blacks.
   b. Give evidence of their spying.

Evaluation: You must answer number 1, 4, 5. You may decide on your number four from the other activities.

Activities:

1. At the beginning of this LAP we defined the word revolution as a complete change in the existing government, and rebillion as a struggle against some existing part of the government which you would like changed. Prove that the conflict in the American Colonies between 1775-1783 was a revolution. Prove that the conflict in the United States between the 1950's and 1960's was a rebellion.

2. Compare the grievances in the Declaration of Independence against England with the grievances of the minorities of the 1950's and 1960's against the U. S. Government. Can you find any similarities? Discuss.

3. Find slogans, music, books, pamphlets, etc. of the 1770's to 1783 and compare them with slogans of the 1950's and 1960's. What are your findings?

4. Make a diary which will be used as proof that Blacks participated in the Revolutionary War.

5. On a scale from 1-5 rate the value of propaganda in the war. Support your judgment.

6. Create one of the following that expresses the theme of the Revolutionary War: musical composition (about two minutes), a dance, a narrative poem, a painting or a drawing.

7. Pretend that you are a soldier and that you took part in a major battle of the Revolutionary War. Write a detailed account of the battle to your family. Be prepared to read orally with proper musical background.

8. Prepare a newspaper on a series of events going on at home while the soldiers were on the battlefield. Put special emphasis on the situation in North Carolina. You might get some ideas from some of the articles by Brown, The Human Side of American History.

9. Show that the colonies had little chance to win the war. Make a list of these statistics. Pretend that the colonists could get no foreign aid and the British won. What do you envision some of the consequences that the colonists might have suffered?

10. Pretend that you are a member of Parliament and defend the British point of view that the British had a right to tax the American colonies.

11. Make a chart showing the elements of similarity in leadership, organization, ideology, violence and propaganda between the American and French Revolution, or the American and Russian Revolution, or the American and Cuban Revolution.

12. Develop a plan for dealing with one of the problems created for England as a result of the French and Indian War.

BIBLIOGRAPHY

Aptheker, Herbert. The Negro the American Revolution. New York: International Publishers, 1940.

Brown, Richard. The Human Side of American History. Boston, Massachusetts: Ginn and Company, 1968.

Caughey, John, John Hope Franklin and Ernest May. Land of the Free. New York: Benziger, Incorporated, 1971.

Ebony--Pictorial History of Black America, Vols. I and II. Nashville, Tennessee: The Southwestern Company, 1971.

*Eibling, Harold, Carleton Jackson and Vito Penone. Foundation of Freedom, United States History to 1877. Atlanta, Georgia: Laidlaw Brothers, 1973.

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*State adopted text for New Hanover County.

Lefler, Hugh and Patricia Stanford. North Carolina. Atlanta, Georgia: Harcourt, Brace & Jovanovich, Inc., 1972.

Parramore, Barbara and Tom Parramore. Did the American Revolution Begin in North Carolina? Raleigh, North Carolina: North Carolina School of Education Office of Publication, North Carolina State University.

Films, filmstrips, and recordings are not listed. The ones that you use depend on the availability at your school.

TEACHING VALUES AND DECISION-MAKING TECHNIQUES

by Mildred Worrell*

INTERVIEW

Purpose: To make decisions about what helps us understand people. To share information about others.

Procedure: Elicit from the students those things that are important to know about a person in order to help us better understand that person. List these on the chalkboard.

Let students choose partners to interview (someone least well known to them). Each interviews the other, taking notes if desired. Students may pass on any question they prefer not to answer. Chalkboard list is just a guide.

After sufficient time is given for the interviewing, have introductions made.

WHO AM I COLLAGE

Purpose: To develop value processes of choosing and prizing. To help classmates practice acceptance of one another.

Materials: Scissors, glue, magazines relevant to student interests, construction paper 12" x 18"

Procedure: Look through magazines and find pictures, words, or symbols that help tell who you are--find pictures, words, or symbols that remind you of yourself for some reason--your likes, dislikes, ambitions, feelings, troubles, etc. Try to find some pictures with hidden meanings that will help us know you better.

Examples:

1. A picture of four piglets, three plain and one polka dotted, could help you explain that just as everything seems to be going all right, something goes wrong in your life.
2. A picture of a steam roller could help you explain that you always seem to be under a lot of pressure.

Glue your collection on to a sheet of construction paper. Overlap to make a collage. When finished, share with the class if you will. At least share with someone. Tell how the pictures, words, symbols help explain who you are.

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*Mrs. Worrell is an itinerant resource teacher in the Charlotte-Mecklenburg Schools. These are the four activities she demonstrated.

SENTENCE COMPLETIONS

Purpose: To make decisions about yourself and share them with others.

Room Arrangement: Seat in circle formation

Materials: Cards with incomplete sentences

Examples:

To get along well in a group, you have to_____
I am proud that once I_____
If I could do whatever I wanted, I would_____
I am happiest when_____
I wish my father_____
If someone makes fun of me, I_____
A father is nice when_____
A good thing about me is_____
What I like to do most is_____
I am best when_____
I get in trouble when_____
Many times I think I am_____
My family treats me like_____
Compared with most families mine_____
When I look at other people and then look at myself, I feel_____
I get mad when_____
My biggest problem is_____
A nice thing about my family is_____
Many of my dreams_____
I cannot understand what makes me_____
My mind is_____
I envy_____
I am ashamed_____
My worst trait is_____
To keep from getting in a fight you must_____
I wish my mother_____
My teachers think I am_____
In class when the teacher calls on me to give an answer, I feel_____
The trouble with grownups is_____
If only teachers would_____
When I look into the mirror, I_____
Fathers should learn that_____
It would be nice if more people would_____
A mother is nice when_____
I admire people who_____
Mother should learn that_____
Making friends is hard if_____

Procedure: Give each child a card with an incomplete sentence on it. Every child gets a chance to initiate responses to his card. Revolve about the circle letting all respond to each incomplete sentence (unless they prefer to pass).

EITHER-OR FORCED CHOICES

Purpose: This exercise compels students to make a decision between two competing alternatives. In making their decisions students have to examine their feelings and their self-concepts and values.

Procedure: Have plenty of floor space for movement to two different sides. With everyone standing, ask an either-or question. Say: If you are more like _____, go to the right side. If you are more like _____, go to the left side. Tell someone closeby why you are more like your choice.

Let a few volunteers tell the whole class their reasons for choices.

Sample Either-or Choices

Are you more like:

kite string or clothes line?
violin or horn?
leg bone or wish bone?
white or black?
square or circle?
summer or winter?
pressure cooker or frying pan?
rubber band or paper clip?
picket fence or wire fence?
pickle or piece of candy?
day or night?
zero or one?
tunnel or canal?
sun or moon?
wind or rain?

dust mop or vacuum cleaner?
player piano or pipe organ?
short circuited computer or tuned up automobile?
unbalanced checkbook or pair of scales?
ball or racquet?
mirror or window?
bulldozer or paver?
hermit or gypsy?
stapler or pair of scissors?
mystery or fairy tale?
wall or gate?
eraser or chalk?
sewing machine or garbage disposal?
washer or dryer?

METAPHORS

Purpose: To test your perception and awareness of self and others in your group.

Procedure: Be sure the class knows the meaning of metaphor--a type of comparison in which one thing is said to be another.
Write on the board:

When I am angry I am a (an) _____.
When I am sad I am a (an)_____.

Elicit fluent and flexible thinking about what animal, plant, machine, or other inanimate object someone might be when angry or sad. Encourage students to use modifiers to dress up the nouns--do elaborative thinking.

Examples:

kite soaring vivaciously in the wind
short circuited computer

When you are sure students have a feel for writing metaphors, have them respond on paper to the following: (All answers should be sincere, honest decisions made about themselves.)

I am at my best when I am a (an)_____.

I am at my worst when I am a (an)_____.

When alone I am a (an)_____.

With friends I am a (an)_____.

Take up these papers and read out the answers (no names mentioned). Have each student write the name of the classmate whom he thinks each set of metaphors fits.

When finished, have the "real" persons stand up.

SCIENTIFIC AND MATHEMATICAL ELABORATION IN THE CLASSROOM

by Lenora Woodard*

Objective: To show how teachers can perpetuate effective independent and individualized study in mathematics and science using the Inquiry Process.

Procedure I: Establish reason for individualization by using two involvement activities.

Activity 1

Each participant was given an orange. He was asked to observe the orange so that it could be recognized when it was placed with all the other oranges. The oranges were then collected, mixed, and placed in a pile. Each person had to select his orange from the group. Each was satisfied he had made the correct choice. Participants were then asked to remove the peeling from the orange, making sure it remained in one piece. After this was completed, he was to try to once more enclose the orange with the peeling. Observing this as impossible, an hypothesis was formed.

Variations of the activity would include writing a description by which others could identify a particular orange or being able to give an oral description accurately enough for identification.

A. Purpose for Activity 1

1. To demonstrate that be careful observation, it is possible to identify those characteristics which make each individual unique.
2. To show how this activity could be used with students to develop the observation technique necessary in science.
3. To demonstrate the use of the investigation process in the inquiry approach using visual, smell, taste and manipulatory learning styles.
4. To demonstrate communication styles using both written and oral descriptions.

Activity 2

The story "Alligator River" was told and illustrated. Participants were asked to make value judgments based on the role of each character in the story. After careful consideration it became evident that no two people have exactly the same values and that each individual has a right to his own value system.

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*Mrs. Woodard teaches in Goldsboro City Schools. She attended the 1970 Teacher Training Institute at the Governor's School and participated in the North Carolina Conference on the Culturally Different Student at Quail Roost in 1973. She has been a resource teacher in the workshop series. Mrs. Woodard was assisted by two other teachers, Annie Hill and Swanola Mooring. The three form a team in their classes.

A. By examining values held by students, the teacher is better able to devise learning experiences.

B. Purpose of Activity 2

To show that because of differences in values, students need unique learning experiences.

Procedure II: Steps needed to create a designed learning experience in the basic instructional program.

A. Diagnosis - Illustration of various placement tests in mathematics

B. Establish learning objectives - Pre and Post tests with the desired percentage of mastery expected

C. Structure for student progress - How to develop an individual profile sheet--work folders

D. Securing necessary resources for meeting objectives - Where do materials come from? What kinds of materials are needed?

E. Student assessment and feedback - Demonstrate the role of student and teacher in assessment and how profile sheets are used.

F. Student and teacher evaluation - Student should be actively involved in the evaluation process.

Procedure III: Demonstration of some materials in a mathematics and science learning center.

A. Fact pacer - Mechanical device to control rate students are expected to recall facts or perform operations--used to develop speed and accuracy

B. Games - Purchased and teacher-made. Demonstration of how to use.

C. Science and mathmatics laboratories - Place and function in the classroom

D. Activity cards in science which provide for:

1. individual activities
2. team activities
3. small-group activities
4. large-group or class activities

Statement: By an individualized approach, students are not deprived of group activities. Activities of this type have a valid place in the curriculum of every student. In our program at Goldsboro Middle School South, the teachers serve as movers or instigators of learning experiences. The teacher assistants serve as consultants for students.

CONFERENCE EVALUATION BY PROJECT EVALUATORS

The second annual North Carolina State Conference on the Gifted and Talented was held at the Hilton Inn in Greensboro and was sponsored by the North Carolina Department of Public Instruction, PAGE (Parents for Advancement of Gifted Education), and the North Carolina Association for the Gifted and Talented. It was funded as a part of the Ten State Title V, Section 505 Project.

The conference was planned and directed by Miss Cornelia Tongue, Coordinator, Gifted and Talented Section, North Carolina Department of Public Instruction and Consultants for the Gifted, North Carolina Department of Public Instruction.

The conference was well planned with presentations to publicize awareness of excellent programs; to satisfy the needs of teachers and therefore, to ultimately benefit students; to offer diversity in both the cognitive and affective areas; to present demonstrations using students and participants.

Pre-conference publicity and time schedules insured a large and enthusiastic group of professional educators and laymen. The program had a pleasant mixture of lectures by nationally recognized authorities in the field of gifted education and small group sessions presented by North Carolina teachers of the gifted. These latter offerings were practical, worthwhile and exciting.

The strengths of the conference were:

1. national leaders with something to offer
2. one site for housing and meetings
3. use of students and student work
4. practical ideas and suggestions in curriculum and program planning
5. diversity of presentations

Suggestions for future conferences:

*1. more space for the small group sessions or better utilization of the available space with chairs for the participants
*2. heating/cooling comfort control
*3. improvement of food service for meals
4. more time for some small group sessions to allow time for more questions and interaction between presentations and participants.

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*These three suggestions are logistical problems over which the conference had no control; however, another hotel should be selected for future conferences.

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