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An Individualized Developmental Reading Program for Junior High School

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AN INDIVIDUALIZED DEVELOPMENTAL READING PROGRAM FOR JUNIOR HIGH SCHOOL

by

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I hope the ensuing thesis will be worthy of their combined efforts.

PREFACE

The purpose of this thesis is to offer some workable solutions for a specific teaching dilemma: how to individualize developmental reading in secondary education effectively for comprehension growth within heterogeneous classes of about 25 students. It will describe underlying rationale, organization, and operating methods of a year's program at the eighth grade in which flexible grouping and individualization was achieved in such classes. Materials used were The New Basic Readers by Scott, Foresman and Company, Reading Laboratory of Science Research Associates, Incorporated, and teacher supplementation. Statistics concern growth of the comprehension factor in reading for the experimental and control groups, including types of learners involved. There were 175 eighth grade students in the experimental group, and 156 in the control group.

Organization and methods employed are conducive to transfer, with some modification. Those concerned with reading programs, special groups such as the culturally deprived, and administration, may be particularly interested in transferable aspects. Content teachers will find some clarification of reading programs and correlation with teaching fields, as well as certain transferable methods.

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THE PROBLEM

A. Trends and Terminology

The majority of high school dropouts read below the grade level at which they dropped out; nearly half read at or below the sixth grade level (28, p. 7). Students who ". . . learn to read better are usually able to do better work in their subjects of study." (37, p. 3) Major authorities concur that maturity of reading achievement is crucial to success in college. The student whose reading instruction ceased with elementary school may find he is ". . . no better reader at the end of senior high school than he was when he entered high school." (25, p. 6) Developmental reading for all types of students can be a deciding factor in their future. Conant (7, p. 67) states that it should be available on a voluntary basis ". . . for all the pupils in the school. The counselors and teachers of English should . . . urge students to take advantage of the opportunity . . . ." Such programs are specifically checklisted in The Evaluative Criteria for Junior High Schools (30, p. 95).

Remedial reading began to emerge after 1920 (17, p. 1129); developmental reading has been a ". . . significant development of the last two decades." (17, p. 1126) The proximity of the creations involved has led to some confusion as to their related but distinctly separated entities.

Developmental reading ". . . is concerned with children of all levels of ability --- the average, slow, and gifted." (38, p. 389) Its aim is to make the ". . . poor good . . . the good better." (10, p. 9) ". . . Even the superior learners profit . . ." (14, p. 15) It should be optional on a continuous basis from elementary through secondary and even into college (7, p. 56; 38, p. 379; 10, p. 9; 14, p. 9; 17, p. 1126). The goal is progress towards ". . . maximum capacity . . ." per potential of each student, and maturity of ". . . understanding . . ." (38, p. 379) These programs for all types of students should not be confused with remedial reading programs which are specifically for the academically retarded reader, usually of average or better mental ability.

Dr. Conant and The Evaluative Criteria for Junior High School recommend remedial, corrective, and developmental reading programs (7, pp. 55, 67; 30, p. 95). Remedial and corrective both refer to academic retardation, the distinction being that remedial denotes a seriously handicapped reader of two or more years' retardation, whereas corrective denotes retardation of a lesser degree (17, p. 1128). Developmental reading can include both these types of readers as well as those of average or better achievement.

Educators often refer to programs for the mentally retarded as "developmental." These classes for special types of learners should not be confused with those programs designated as basal or developmental reading programs. The terms "basal" or "basic" as hereinafter referred to are synonymous with the term "developmental" in reference to the

program and materials to be described.

B. Types of Developmental Reading Programs

Because of its neophyte nature, the direction of these programs is in a state of flux. Authorities generally concur on major objectives, but emphasis to attain these ends vary. Programs in operation are described in Problems in the Improvement of Reading (40, pp. 32-59), Teaching Reading in High School (23, pp. 259-274), and Reading Instruction in the Secondary Schools (1, pp. 156-222), while a suggested program for junior high school is the subject of A Developmental Reading Program for Grades 6 through 9 (44).

Three major evolving areas for emphasis appear to center on: (a) machines and improvement of rate, sometimes called speed reading; (b) content area skill improvement, generally incorporated within the content subject area; and (c) sequentially leveled materials, utilized either as part of the English class, or as a separate program.

An objective summary which encompasses machines, rate, and comprehension may be located in Psychology in Teaching Reading (38, pp. 234-236). Pertinent aspects relative to rate improvement and speed reading courses would include such as the following.

1. Slow learners tend to comprehend at a slower pace, faster learners at a higher pace (6, pp. 500-512).
2. Relationship of speed and comprehension can be largely dependent upon the purpose set and the nature of the material (36, pp. 52-57).

3. Basics of phrasing can lead logically to sequential development of rate without machines (14, pp. 14-16).
4. The typical reader can increase rate by 20-25 percent without loss of comprehension, but homemade devices may be used to accomplish this (10, p. 22).
5. ". . . An undue emphasis on speed . . . divorced from . . . understanding could be disasterous." (1, p. 117)
6. ". . . Some things are best read at a rate of 100 words a minute, others at 200, others by a skip - and - skim process which may cover 600 or 1,000 or more words per minute." (14, p. 22) The article "Teaching Machines in Perspective," also by Gates, is worthy of note (15, pp. 1-13).

Two texts which give explicit coverage of skills per content area are Teaching of Reading in High School (23), and Reading Instruction in the Secondary Schools (1). Although subject content teaching has many advantages, the danger lies in that ". . . everyone's responsibility can soon become no one's." (10, p. 11) If conditions for specific content teaching aren't available, then ". . . the basal developmental program must assume responsibility." (10, p. 21) Every content teacher should become familiar with the skills relative to his field, particularly in such aspects as: which rate is best for his subject, level of maturation at which certain skills may or may not be taught successfully, and the teaching of specialized vocabulary or symbols essential to his subject. The developmental reading program can embellish the content teacher's

tasks by:

1. clarifying those skills which are basal to all subjects;
2. pointing out which specific skills apply to certain content areas;
3. teaching how, when, and where to apply rate properly; and
4. emphasizing the need to learn specialized vocabulary, such as in math and science.

Sequentially leveled materials stress skills of a basic nature, organized to develop progressively towards higher levels of maturity. They generally consist of sequentially graded workbooks often accompanied by texts, leveled workbooks without texts, and laboratory kits with many individualized selections covering a wide achievement range. The control group used texts, workbooks, and kits as will be described. As supervisors compare complete series of various publishing companies prior to selection, it would be advantageous to consider the following, and how it might affect their particular programming: (a) grade or level gaps, (b) gearing material too specifically for low ability, (c) selections which dovetail the English literature program, and (d) how best to control classroom use of these materials near achievement rather than enrolled grade level of the student to assure a more effective program.

C. Essence and Statement of the Problem

Improvement of comprehension in reading began when the importance of silent reading was recognized (17, p. 1117). Gray feels that a

modern series of studies relative to this comprehension factor should be instigated (17, p. 1124). Comprehension is ". . . highly related to academic grades." (38, p. 214) The testing instrument of this thesis, California Achievement Tests, Complete Battery, Junior High Level (41), arrives at its total reading score by combining the factors of vocabulary and comprehension. The experimental program stressed improvement of the comprehension factor; statistics concern this factor for all types of learners in the experimental and control groups.

Individualizing for these types is almost universally agreed upon as a worthy aim, but difficulties inherent in attaining it, particularly when complicated by heterogeneous grouping at the secondary level, can seem overwhelming for the teacher (10, p. 15).

The problem, then, is as follows:

When eighth grade heterogeneous classes of 25 or more students per class meet daily in a year's program of developmental reading, (a) what individualizing procedures and (b) what teaching methods (c) will result in reading comprehension growth above average expectation according to the learner's potential?

CHAPTER II

THE HYPOTHESIS

A. Grouping and Individual Differences

Flexible subgrouping for reading improvement is desirable at elementary and secondary levels, authorities agree (12, p. 166; 40, pp. 386-7; 4, pp. 129-30; 14, p. 11). It ". . . best meets the problem . . .," especially for heterogeneous groups (10, p. 11). Lines should be so flexible that a student may advance freely, or belong to more than one group at a time (38, p. 386). It is important to organize and provide for differences (23, p. 246). This means not only differentiated assignments and a range of materials for ability, but also a varying of teaching method in terms of the learning characteristics of students (10, p. 11)

Teacher knowledge of individual differences may be essential to success in reading programs, major authorities agree. Such knowledge, they indicate, can be obtained from: (a) cumulative records and confidential files which reveal IQ, achievement, grades, race, home and health conditions, possible psychological disturbance, comments of previous teachers, and others; (b) an individualized reading analysis or profile revealing areas of strength and weakness; (c) oral and observational means for work and study habits, attitude and motivation, personality and peer associations; (d) student papers which concern interests,

reactions, and tests; (d) student - teacher conferences. Such knowledge should be a continuing process in some respects, allowing for re-evaluation.

Respective of individual IQ scores, it is recognized that ". . . all measurement is subject to error." (35, p. 131) This source mentions Hildreth's warning concerning the acceptance of a single IQ score (35, p. 288). Authorities concur that single scores are particularly suspect if group administered. Recent studies indicate that IQ scores of students from certain groups may need reevaluation: children from non-English speaking homes, the culturally deprived, and those from the so-called lower socio-economic classes. However, educators need to ". . . make the best possible use of such tools as exist." (35, p. 135)

In light of the above, learners will hereinafter be referred to as: (a) Slower, 65-79 IQ; (b) Slow, 80-89 IQ; (c) Average, 90-110 IQ; (d) Superior, 111 plus IQ. Types of learners will be the basis for some statistics, and this IQ range was included in both experimental and control groups. For more precise classification and distribution of IQ see the Merrill report in Frandsen's text (12, p. 146).

Those developmental reading courses offered on an optional basis which are not speed reading courses often comprise a large number of students who are poor readers. Authorities differ as to causes of poor reading, these vary from a single one to lengthy lists. A comprehensive list widely accepted is in Reading Difficulties: Their Diagnosis and

Correction (4, pp. 148-9). Poor readers can be found in all types of learners, and often in such special groups as mentioned above. Many students enter the developmental program before or after a remedial one; both offer measures which can be used correctively. The following chart, devised by the author, shows the interrelation of remedial and developmental programs, some basic causes of poor reading, the three types of learners, and special groups. It may clarify relationships involved and facilitate individualization. Major sources are listed in Bibliography B.

B. Readiness in Motivation and Reading Skills

The urge to achieve, or lack of it, affects correlation of IQ and predicted achievement with actual accomplishment (35, p. 303). Almost any method which can break the habit pattern of failure that results in establishing a successful experience pattern--is worthy (11). Motivation as student incentive should be approached individually (38, p. 67). It is not the artificual pep rally preceeding presentation of material, but ". . . is part of the teaching method and cannot be separated from it." (27, p. 17).

Maslow's hierarchy is a positive approach to motivation (24). It depends on prior satisfaction of prepotent needs which are: (a) physiological drives; (b) safety, security, and freedom from anxiety; (c) love and acceptance; (d) self and social esteem; (e) self-actualization (24).

When a student's method of attack is rigid, means should be used

Chart 1. Relationships in reading or poor readers, types of learners, and special groups

Poor readers	Slow learners	Average learners	Superior learners	Students from homes of lower socio-economic, culturally deprived, or non-English speaking groups
1. Includes all three types of learners and special groups in various ratio. Remedial reading draws those performing 2 grades or more below actual grade placement. May be poor reader of less than 2 years lag; eligibility then varies.	1. 90% fall between 80 and 110 IQ. 1. May be capable readers, but still have certain areas of strengths and weakness. 1. Below 80, almost assuredly usually not eligible for remedial reading. 1. 80-89 IQ; high ratio; may not be eligible remedial. 1. May work to potential, perform below grade level.	1. Eligible for remedial reading. 1. Remedial reading draws bulk of students from this group.	1. Usually doesn't need remedial, but may. Performance at grade level may be below potential.	1. IQ and achievement scores can be affected. IQ score based on language or reading is suspect. May be weak in initial concepts for early reading, resulting in poor progress. Eligible remedial if IQ score indicates acceptance.
2. Authorities say usually characterized by poor comprehension.	2. Be alert to bifactor; total score may be misleading if either vocabulary or comprehension factors widely divergent from each other.			

Chart 1. Continued

Poor readers	Slow learners	Average learners	Superior learners	Students from homes of lower socio-economic, culturally deprived, or non-English speaking groups
	2. Needs more vocabulary emphasis; interprets on concrete level; poor at generalizing; needs simple inductive experiences; needs simpler comprehension skills, may not attain higher skills; may not be able to interpret abstractly.	2. Boys tend to think more in concrete terms than do girls; may evidence some characteristics of either slow or superior, or some of both.	2. Interprets well on abstract level; generalizes well; good at relationships; capable of attaining higher skills but still may need guidance.	2. Tends to be a physical learner; may be hampered by rigidity of his approach culminating in appearance as slow learner but may not be; word concept improvement early years may facilitate better comprehension of higher skills later. Cultural climate affects grasp of school climate.
3. Beginning reading stages combine auditory, visual, kinesthetic (tactile) approach. Pupil's weakness in one of these, or need of emphasis for one over others, may lead to poor reading.	3. Teachers should be alert to visual or auditory deficiencies, as well as other physical factors which may affect reading. The need of some children for a tactile approach to beginning reading, which may not be emphasized for them, is beginning to be more recognized.			
	3. May also profit by more of the tactile approach.			3. The need for physical contact of some in these groups may aid early learning.

Chart 1. Continued

Poor readers	Slow learners	Average learners	Superior learners	Students from homes of lower socio-economic, culturally deprived, or non-English speaking groups
4. Emotional, mental disorder, may be either a cause or result of poor reading.	4. If condition is serious, psychotherapy could be recommended.			4. Be alert to conditions arising from single-parent homes, or rejection of school environment.
5. Accidents	5. Frequent moves; lengthy or series of illnesses, especially in early grades; parental pressures to exceed beyond potential or excessive catering; poor early instruction by improperly or poorly trained teachers, especially in early grades, among others.			
6. Excessive stress on early phonics, or oral reading without proper sequence to higher skills of silent reading, can cause help in one stage becoming hindrance in another, later stage of development.	6. Benefits by slower rate of speed in reading. Word assistance helpful, but proceed slowly to comprehension in larger units. Use caution so as not waste time student or teacher if not ready next stage.	6. May need slower or speeded rate for comprehension. Perspective in speed needed.	6. Benefits by higher rate if perspective in use is clarified. May be hampered by too slow speed holdover early stages or oral.	6. May well benefit early training in phonics and oral, if proceeds well, then to later silent and comprehension skills.
	6. Subvocalizing can cause slow rate, similar pace for all materials. Be alert if consistently much under 250 words per minute at high school level. By fourth grade, silent speed should surpass oral.			

Chart 1. Continued

Poor readers	Slow learners	Average learners	Superior learners	Students from homes of lower socio-economic, culturally deprived, or non-English speaking groups
7. Some authorities choose a single criteria base, as interest or motivation, as a primary cause. (See later material, this thesis, relative to motivation.)	7. Interest and motivation affected by teacher's frown for slow progress, and own feelings frustration, climate of failure. Takes well to and benefits from drill and massed practice.	7. May be a primary cause. 7. Major portion literature basals (about two-thirds) slanted to reading interests of girls.	7. Bored by drill; distributed practice better; benefits by challenge, enrichment.	7. Poor attitude toward reading and school can develop as result of attitude of home, culture, peer group; lessens interest and motivation. Themes in reading often far removed from his environment. Motivation may affect IQ score.
8. Readiness: jumping readiness hurdles may lead to frustration, failure; may be "stuck" in one of series of sequential development; may not have had guidance in later higher levels of sequence.	8. See above. May never attain higher levels skills based on abstract reasoning, generalizations. 8. Is affected by need of longer time for same task as peers.	8. Benefits by guidance; hurdle jumping and "stuck" at one level apply here. 8. Habits of work may affect.	8. May attain higher levels on own, but most benefit by some guidance. 8. Same task usually takes less time than peers.	8. See slow and average. Guidance based on good foundation may affect IQ and performance levels favorably. Readiness could be major clue for sequential development resulting in improved scores, if early scores lowered by same factors that might improve them.

Chart 1. Continued

Poor readers	Slow learners	Average learners	Superior learners	Students from homes of lower socio-economic, culturally deprived, or non-English speaking groups
8. Continued (See later material, this thesis, relative to readiness.)				
Do not rely too heavily on a single IQ score, particularly if group administered.				
TRANSFER OF LEARNING				
"Transfer principles enhance the effectiveness of learning for individuals at all levels of intelligence." (12, p. 360)				

to help the student break these bonds to enable flexibility (27; 9, p. 289). Hilgard, in referring to Thorndike's Law of Readiness, concludes that readiness is ". . a preparation for action." (21, p 18) Dr. Bennion described a five level hierarcy of drives for action: (1) fear, (2) punishment, (3) reward, (4) duty, and (5) inherent self-satisfaction (2). A teacher may assist a student by applying motivation from drives for action to break bonds of rigidity, thus reconditioning upwards the student's motivation hierarchy from his level of readiness towards self-actualization. It also involves a cross application by the teacher from Maslow's hierarchy for reconditioning a student's drives towards inherent self-satisfaction.

This double reconditioning process was called ". . . the heart of motivation . . ." by Dr. Umstattd (42) when presented by the researcher in a chart explaining individualized application of teaching method to motivation. A simplified version is shown on page 16.

Readiness is ". . . an essential condition of effective learning." (12, p. 104) It is requisite in probably every aspect of the curriculum (12, p. 97). "Thus there are numerous determinants of readiness . . . they also govern his degree of readiness for each succeeding phase of higher level reading development." (38, p. 449) Authorities concur. Those reading programs or teachers that do not take cognizance of this readiness factor and propel all students into a single text or workbook according to enrolled grade level, can face mutual teacher and student frustration with the unready. Betts has identified three reading levels

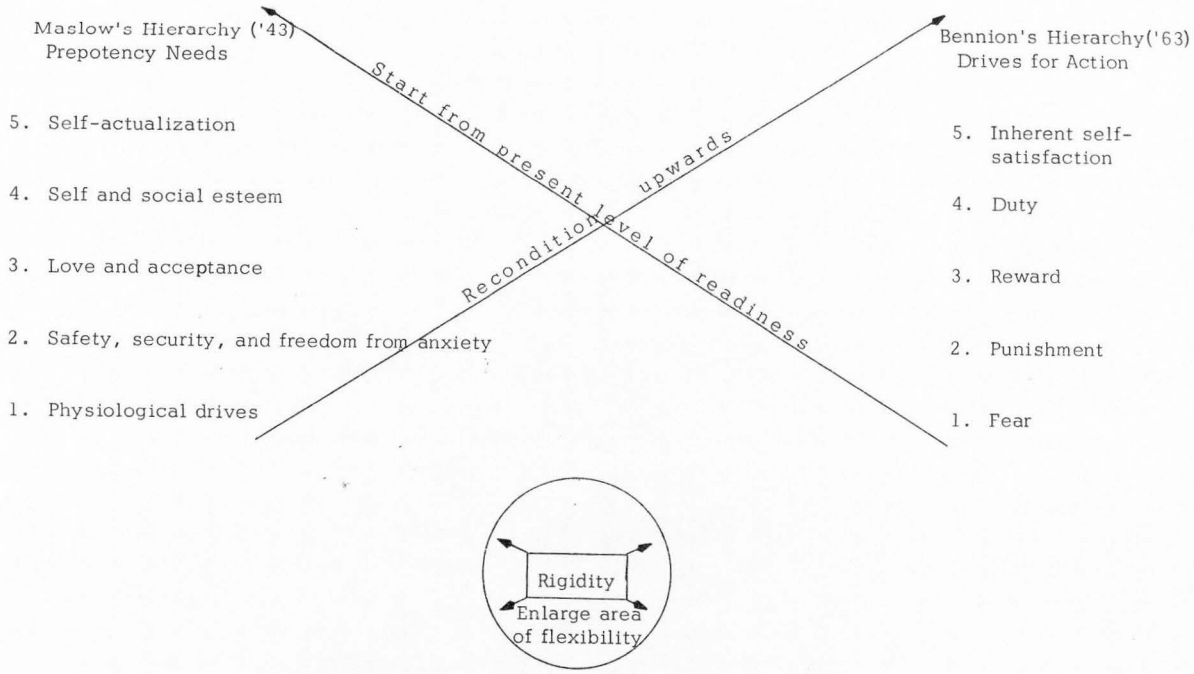


Figure 1. Individualizing for motivation

which clarify how this can happen. An independent reading level requires about 90 percent comprehension and word pronunciation for comfort and rhythm, instructional level about 75 percent comprehension and 80 percent word pronunciation; much below this latter figure is frustration level (3, p. 438). In fact, on frustration level, reading comprehension retrogression may occur. (See later statistics.) Failure is almost certain in most areas of knowledge when unreadiness is severe (35, p. 331).

For steps in analyzing words see On Their Own in Reading, Revised Edition (18). For a condensed version of sequential steps from pre-reading activities through maturity of skills see Educational Psychology (12, pp. 97-98). "The developmental program is built upon the premise that a growing maturity in reading is achieved through a continuous growth in the basic skill areas." (10, p. 9) So, the skills involved, but not the maturity in use, are essentially the same whether second or twelfth grade (10, p. 10). Parker has explained how instruction of skills can be individualized for learning by laboratizing instruction through presenting a major skill to all, then individualizing in a self-operating approach (33). The latter statement is a simplified version of the researcher's organization and approach.

C. Inferences from Psychology and Theories of Learning

Reading authorities generally concur that ". . . all the research in the psychology of learning becomes a part of the psychology of reading." (38, p. 452) The twofold goal of teachers should be guiding students in

mastery of concepts and skills, and teaching them ". . . how to learn and solve problems effectively." (12, p. 307)

What type of classroom atmosphere would be conducive to such guidance and approach? Pertinent aspect would include these:

1. PROCEDURE: This should be flexible, not cut-and-dried, allowing for zest and student self-insight (14, pp. 26-8).

2. TYPES OF QUESTIONS: Improvement of comprehension may center on the nature of questions from both students and teacher. They should be towards attacking ". . . understanding ideas read in their proper relationships." (10, p. 19)

3. STUDENT PARTICIPATION: "Active participation . . . is preferable to passive reception." (38, p. 79)

4. PRAISE AND BLAME: Reports tend to support sincere praise, but entities should act according to the whole situation (35, p. 325). Either should be given when due, yet if scolding is needed, it should be done in such a way that the student doesn't feel hurt or angry (26).

5. RECOGNITION: Growth should be recognized ". . . no matter how small, when it occurs." (23, p. 54)

6. TEACHER GUIDANCE AND MISTAKES: Give guidance only as needed, for students need to learn how to meet obstacles constructively; they should have freedom to ". . . learn from their mistakes." (12, p. 223)

7. SUCCESS AND FAILURE: There should be a ". . . steady, cumulative sequence of successful behaviors." (43, p. 4) "Tolerance

for failure is best taught through providing a backlog of success." (38, p. 79)

8. DISCIPLINE: From the teacher, it should be firm yet flexible, aiming towards the student's fifth level of Cronbach's hierarchy--the rational-conscientious (8), or self-motivated.

9. HUMOR: Authorities agree that teacher and class should have a constructively applied sense of humor.

10. TYPE OF EXPERIENCE: Learning and learning how to learn should be emotionally, intellectually, and motivationally satisfying, a summary of sources indicate.

One chief value in becoming familiar with learning theories is that they can suggest where to look for solutions to practical problems (22, p. 212) An integrated theory enables ". . . creative teachers to invent new and better ways of teaching and guiding children." (12, p. 31) Concerning the three main theories of learning, the author, as Frandsen, has some ". . . bias towards cognitive theory"(12, p. 52), but correlates some views from the other two. Aspects of theory incorporated in the program but not previously discussed are mentioned below.

Conditioning utilizes contiguity, and this "Contiguity in time of the cue and the response is essential." (12, p. 34) Guthrie's Law of Recency implies one would tend to do again what one did last in a given situation (22, p. 48). Theoretically, repetition isn't needed, but variety of application in follow-up situations is helpful (12, p. 34). Thus,

strike when the iron is hot! (See "red A" and method of teaching major skills.)

Reinforcement utilizes trial-and-error and reward. Thorndikes Law of Effect in stimulus-response connections entails following a correct response with a satisfier or reward for strengthening connections (22, pp. 58-9). However, ". . . systematic trial-and-check practice . . ." can also carry ". . . the learner nearer to his goal." (12, p. 295) As Watson summarized, rewarded or reinforced behavior is more likely to recur; reward-reinforcement should follow closely desired behavior and be closely connected in the learner's mind (43, p. 2). Thus, timing, emphasis, and amount of reward at crucial connection points can facilitate learning. (Again, see "red A," methods, and skill evaluations.)

Cognitive theory utilizes insight. "The most important contribution of gestalt theory to our understanding of learning is in the study of insight." (22, p. 95) Insight ". . . occurs suddenly with a feeling that now one really understands." (22, p. 95) Perhaps basic is ". . . the suddenness of the solution." (9, p. 276) So, when the teacher has that particular eye-to-eye and mind-to-mind contact with students which denotes the sparking of insight, that is the time to apply integrated application of theory--and concrete means for bringing that spark to full fire. (Again, see "red A," insight learning of skills, and evaluating.) Gradual learning by a series of trial-and-error can also be interpreted as a ". . . series of small, partial insights." (22, p. 96) (Note use of evaluations.) This insight characteristic of cognitive theory is

particularly conducive to transfer, and resistant to forgetting; it tends to persist (22, p. 95).

Conditions for transfer are summarized by Frandsen (12, p. 362).

> Effective transfer is a product of (1) generalizing concepts and skills, (2) practicing them in varied applications, (3) developing a mental set for further applications and extensions of learned concepts and skills in new problem situations, (4) sufficient relationships between principles to be transferred and intended areas where they may be applied, (5) learning how to learn - that is, discovering continually more effective work methods, (6) thorough mastery of concepts and skills to be applied, and (7) adapting curricula and methods of teaching for transfer to individual differences in abilities of the learners.

D. Statement of the Hypothesis

When eighth grade heterogeneously grouped classes of 25 or more students per class meet daily in a year's program of developmental reading, growth in reading comprehension will almost always be above average expectation per potential of the learner if: (a) procedures organized towards individualization and (b) methods based on teaching towards insight learning of the basal reading skills are (c) integrated with knowledge of individual differences, readiness concepts, grades, and the psychology of learning for (d) transfer of skills towards higher levels of comprehension maturity.

CHAPTER III

PROCEDURES IN ORGANIZING FOR INDIVIDUALIZATION

A. Nature of Students in the Experimental and Control Groups

Results of the first large scale evaluation of homogeneous versus heterogeneous grouping: "It was found that ability grouping does not necessarily result in better achievement." (31, p. 378) A review of research in grouping (13) and a recent five-year study involving Weber County and Ogden City Schools of Utah generally substantiated the above (5). Central Junior High School where the experiment was conducted, reflects the heterogeneous grouping philosophy of its district, Ogden City Schools.

Self-selection of courses and conditions of selection can result in the skewing of a class average IQ and other traits in one direction or another even in heterogeneous grouping as a whole. In the control and experimental programs of 1957-1958 and 1962-1965 respectively, students of a B or better average scholastically who took foreign language study, or those who chose instrumental music, did not tend to enter either program. The control program consisting of 156 students, and the experimental program consisting of 175 students, had language IQ averages skewed near to low average: 97 and 96 respectively. Both programs had entering reading comprehension scores averaging 7.2. These control

group IQ ends were 65-150; comprehension entering scores were 4.4-12.0. Experimental language IQ ends were 65-126; comprehension entering scores were 3.7-11.0. (See later chapter concerning statistics for additional comparisons.) Special groups in this locale included Spanish-Americans, Dutch immigrants, and students from lower socio-economic categories.

Both programs, control and experimental, were year courses. When the control literature course was offered, the experimental developmental reading course was not, and vice-versa. Experimental group was under the researcher's instruction in three separate years with different students enrolled each year, but control group was under several different instructors for a single year. Both were eighth grade courses.

B. Nature of Materials in the Experimental and Control Groups

The control group, designated as literature classes, primarily used a single eighth grade literature text for all classes; this was occasionally supplemented for enrichment according to the inclination of the various teachers.

The experimental group, designated as developmental reading classes, used three general types of materials: (a) texts and workbooks designed for developmental reading; (b) an individualized reading laboratory kit; (c) teacher-implemented supplementation.

The three texts with accompanying workbooks were from the Scott, Foresman and Company Curriculum Foundation Series for Junior High

School use, The New Basic Readers (16). The laboratory kit was The Science Research Associates, Incorporated IIIA (32).

C. The New Basic Readers and Phase One

Basic Reading Skills for Junior High School Use, henceforth referred to as Basic, is a 185 page textbook not accompanied by a workbook. Designed for those entering the seventh grade, it includes selections from preceeding grade levels, and about all basal skills for grade two through twelve. There is a five-page survey test utilized by the researcher for analyzing a student's areas of strength and weakness; this was given when the student entered the course. There are sixteen sections organized by the authors to develop maturity of skills from the survey test, and two concluding sections, "Summarizing and Organizing" and "Reference Materials."

Phase One of the course concentrated on this Basic material: the last two sections mentioned above and incisive pages in two general groups of 7, 8, 9, 11, 12, 12, 39, and 61, then 17, 18, 19, 21, 31, 46, 48, 50, 60, 70, 83, 87, 97, 98, 111, 112, and 127. These preselected pages and sets were chosen because they are particularly conducive for insightful understanding of major basic skills essential in the various grade levels. The teacher's approach included conceptual embellishment towards insightful understanding for mature use of these skills: explaining in clear, simple concrete terms; relating to teenage areas of interest; dramatizing; diagrams and colored chalk illustrations; possible content

field applications; the "red A" as will be described; utilization of above at moment of contiguity. Major skill introductions as described above was followed by return of the student's analysis taken from "Survey Tests" in Basic. Analysis was sectioned according to areas of weakness and strength as evidenced by this survey according to pages and general skills. How this individualized analysis was to be used in future Blocks of Phases Two and Three was explained.

Phase One had tests correlated with the concluding two sets and 25 pages of Basic mentioned above, and the supplementary materials of this Phase as will be described later in this chapter.

D. The New Basic Readers and Phases Two and Three

Phase Two and part of Phase Three required Basic work according to weakness and strength of analysis, and this Basic work was considered as minimum "C" grade level for report cards. For each future Block to be described in detail later, Basic work according to analysis was to be done first before higher levels for higher grades.

For all workbook pages in all grade levels, no "F" for failure was ever given in these Blocks, or on Phase One pages, if the page was completed. Rationale was "learning from mistakes," "series of partial insights" as mentioned heretofore. Since evaluation for all workbook pages was required for grades less than "A," this evaluation by the student entailed some learning, it was presumed, and therefore no "F." Skills varied for evaulation not only for page skills, but also for nature of the student.

Chart 2. Analysis for individualizing the Basic in phases two and three

KEY: S=strong, W=weak, M=moderate

survey test psge in Basic	p. 170	p. 171	p. 174	p a g e 1 7 3				p a g e 1 7 2			
Name	page 1	page 2	page 5	p a g e 4				p a g e 3			Place continuing comments here, and final scores.
Record here from cumulative record, confidential file, and student's introduction paper on interests and other matters. Essential are such as IQ language and non-language, reading score totals and verbal and comprehension parts, other content scores, usual grades academic and citizenship, health, home conditions, special circumstances, etc.	WORD MEANING (VOCABULARY)	SENTENCE MEANING	PARAGRAPH MEANING (INTERPRETATION)	DICTIONARY		USE		WORD ANALYSIS			
				A. vowel sounds	B. alphabet order	C. dictionary context	D. root entry	A. B. C. vowel and consonant sounds	D. E. F. accents and syllables	G. H. I. J. roots	
	Number of items below for each page or section is as noted here.										
	32	18	17	72	4 col-	4	6	58	33	44	
	Number of misses for each page or section determines whether student is of weak, strong, or moderate ability in this area. Number of misses to determine this is based on a combination of number of total items and importance of type of ability under consideration, plus consensus of previous students' curves determined by researcher's experience.										
	S = 0 to -1	S = 0	S = 0 to -1	S = 0 to -4	S = 0	S = 0	S = 0	S = 0 to -4	S = 0 to -2	S = 0 to -2	
	M = -2, -3	M = -1, -2	M = -2, -3	M = -5, -6, -7	M=any miss	M = -1	M = -1	M = -5, -6, -7, -8, -9	M = -3, -4	M = -2, -3 -4	
	W = -4 or more	W = -3 or more	W = -4 or more	W = -8 or more	W=any miss	W = -2 or more	W = -2 or more	W = -10 or more	W = -5 or more	W = -5 or more	
					SAMPLE	STUDENTS					
	S = 0	M = -1	W = -4	S = -4	W = -2	S = -0	M = -1	W = -9	W = -10	S = -2	
	S = 0	S = 0	S = -1	S = -2	W = -1	S = 0	S = 0	M = -5	S = -1	S = -1	
	M = -2	M = -1	W = -4	W = -9	S = 0	S = 0	W = -2	W = -16	W = -17	W = -16	
	W = -5	W = -5	W = -8	W = -34	W = -2	W = -3	W = -4	W = -30	W = -15	W = -33	
	W = -18	W = -9	W = -9	W = -38	S = 0	W = -3	W = -5	W = -38	W = 19	W = -20	

Other publications of The New Basic Readers used were text and workbook titled More Parades of high seventh level; text and workbook titled Panoramas of low eighth level; More Panoramas text and workbook of high eighth level. Levels, so named by the authors, sometimes taxed those entering at such levels if the total reading score was higher than the partial comprehension factor. Independent, instructional, and frustration levels for many also had to be considered.

Blocks for Phases Two and Three included some Basic according to need for a minimum "C" report card level; a smaller number of workbook pages with accompanying text from More Parades was required in addition to Basic for a minimum "B" report card grade; Basic plus More Parades plus some Panoramas pages for each Block was required for an "A" card grade. Occasionally an advanced student, not taxed by More Parades, skipped it, and worked independently in More Panoramas instead for his "A" grade.

Easy materials were always done and checked first, then harder, then still harder respectively for each Block in order. Those who had strength areas in Basic per analysis were released early from Basic self-grading and discussion of skills involved to work on advanced materials. Those who were weak on skill page set in the survey test did the strong pages plus his own for weak areas--thus benefiting from discussion with the strong ones. However, they remained for smaller group discussion of these weak area pages and a chance to shine at their own readiness level. Then all were released, either to work on a succeeding Block if

he could handle only "C" level comfortably, or for higher leveled materials of the same Block until such time as we checked them in order. These were More Parades for "B" report card grade level, then Panoramas for "A." More Panoramas was reserved for specially advanced students who set their own pages per Block; they worked, graded, and evaluated independently, using teacher guidance only as needed. Access was given, as in Phase Three for all, to this answer book.

Independent evaluation by skill was required for all Phases for all students. Except for More Panoramas independent workers, all pages in Phase Two were group discussed and checked with the teacher, but evaluated for skill independently. Teacher guidance per knowledge of the individual student, his work, study and skill problems was suggested, plus possible skills for that page. Disagreement with book answers, if insightfully arrived at and logically backed up, was allowed, and credit given. A student who wished to tackle a harder level not previously entered was allowed to "listen in" with that group for a plus credit until such time as he felt he could enter it comfortably. If he entered near report card time, he could make up pages for that level if he desired, or take a plus credit to the lower grade level if preferred.

Students, therefore, self-selected their report card level grade. As skill insight was attained and matured, transfer elements affected more comfortable transition to higher levels. (See later statistics.) "A," "B," and "C" level report card grades were given regardless of specific page grades, whether "red A," "A," "B," "C," "D," or "D minus," because skill

evaluation was considered a learning process--no "F" if completed. Part of this Block work in Scott, Foresman Series became a part of Phase Three which combined with the lab kit for an entirely individualized part of the program. In this Phase Three all work was done, graded, and evaluated by the student with teacher help and conference only as needed.

Those unready for this type of self-motivation whose ability was above minimum "C" level for which it was devised, were informed that this was a "developmental" program. This capable underachiever type of high seventh grade or better reading ability had private conferences which attempted to help him understand and overcome his poor attitudes and work habits, with the clear understanding that he might get a report card "D" or even an "F" if the situation persisted. Rationale for this, as discussed with the student, was that nature and grading of the course was based on progress developmentally from point of entry. This was effective in almost all cases, with the student eventually forgiving the teacher for this appraoch as he progressed upwards in success patterns and motivational hierarchy.

E. The SRA Reading Laboratory and Phase Three

The Science Research Associates Reading Laboratory, III.A (32) covers reading achievement levels from grade three through twelve. The kit has fifteen individualized selections at each of these levels for power in reading comprehension and learning about words. It also has a similar number of selections at each level for improvement of rate, or

Chart 3. Procedure: Organizing materials towards complete individualization

PHASE ONE	feeds into →	PHASE TWO	feeds into →	PHASE THREE
The Class as One Group		The Class as Flexible Subgroups		Complete Individualization
1. Emphasize basic type skills in 2 sets and 25 pages of Basic workbook and supplementary material.		1. Single group action now only on the "strong" pages of Basic for a set based on an analysis page. See circled pages in Blocks below. See preceeding Basic Analysis Chart.		1. SRA Laboratory is already individualized. Evaluate by skill for all scores under 90 percent.
2. Present students with their individualized analysis from Survey Tests in Basic. Refer to tests as pages 1-5 for these skills.		2. "Weak" and most "moderates" join in all pages for a set of Basic based on an analysis page, but "strong" are released after checking their pages first.		2. All levels in The New Basic Readers are now individualized, self-graded and evaluated by skill under an A-grade per page.
- - - - - - - - - - - - - - -		3. "B" level More Parades is flexible for entry. Subgroup size varies.		- - - - - - - - - - - - - - -
Learning for skills and how to evaluate by them feeds into Phase Two. Group type evaluations recorded individually.		4. "A" level Panoramas is flexible for entry, usually the smallest group.		Greater maturity in comprehension through growth in knowledge and use of the basic skills, and independent evaluation.
		- - - - - - - - - - - - - - - - - - -		
		Growing skill insight, how it operates, and student recognition of trouble areas facilitates series of "partial insights" for guidance in learning how to evaluate individually, and transfer for maturation.		

Chart 3. Continued

SAMPLE BLOCKS IN THE NEW BASIC READERS

BLOCK ONE	BLOCK TWO	BLOCK THREE
"C" Grade Level Basic Analysis page 1 10, 64, 65, (66)[a], (67), 68, 69, 70, (71), 91, (92), 93, (94), 95, 96	"C" Grade Level Basic Analysis page 4 14, 15, (16), (109), 110, 113, 115, 116 Analysis page 2 20, 22, (23), 24, 26, (27), (28), (29)	"C" Grade Level Basic Analysis page 3 32, 33, 34, 35, 36, (38), 40, (41), (42) Analysis page 5 72, (74), 76, (77), 79, (80), (81), 91, (92), 93, 94, (96)
"B" Grade Level More Parades Pages 1-6 in workbook	"B" Grade Level More Parades Pages 7-14 in workbook	"B" Grade Level More Parades Pages 16-24 in workbook
"A" Grade Level Panoramas Pages 1-4 in workbook	"A" Grade Level Panoramas Pages 5-12 in workbook	"A" Grade Level Panoramas Pages 13-19 in workbook

[a]The circled pages for Basic "C" level are for those considered fairly strong in these skills. The "strong" pages are discussed first, and these students are then released for advanced study in "B" and "A" grade levels. The "weak" students do all Basic pages mentioned, and remain until all such pages are duscussed.

speed. Powers and rate builders were used as directed by the authors. Listening skills as devised by the authors weren't included, but their aims were as course progressed from inception. The authors direct that students keep individualized charts of progress concerning time it took to read, comprehension time for questions on the reading and words, and actual scores for these questions in the power builders. The three minute rate builders for speed and comprehension improvement are also to be self-charted. Pupils check, score, chart, and evaluate these power and rate builders themselves. All scores under 90 percent were evaluated, whether power builders or rate.

Some students who had had a lab kit experience of this nature before transferring to the researcher's course commented that they did not always have to evaluate those scores below 90 percent in these other classes. These students freely volunteered the opinion that they were making faster and better progress in our lab approach, primarily due to evaluating techniques.

This reading laboratory operated as the major portion of Phase Three. Remaining Blocks from the Scott, Foresman and Company series were done independently by students in the time left after lab work. The course was now completely individualized, or ". . . one in which no two children in the class are reading the same thing at the same time." (19) Students had moderately free access to the teacher's answer books for The New Basic Readers which included grade levels from "A" to "D," and suggested skills involved.

If a student could not get out of a color level in the lab, he brought several of his previous selections to the teacher for a detective type process to locate and determine which skills were still impeding his progress. The same individualized detective type approach was used now for locating and refining skill application for maturity if they appeared in the Scott, Foresman workbook levels.

A "C" grading level for report cards was allowed for a minimum one color growth in the lab, which usually applied to slow learners who also had severe reading problems at enrolled grade level. Those who had successful experiences at the red or near the ninth grade reading level or above were eligible for "A" report card grades. Warnings for "D" and "F" grades seldom applied here, probably due to the lab's intriquing self-motivating features, the detective type assistance mentioned and earlier methods. It was observed that students who entered at or below fifth grade comprehension level usually continued to have difficulty even in the Basic of Scott, Foresman, whereas they had a measure of success so essential for them when going from third to fourth, fourth to fifth, and sometimes to sixth grade in the lab. Frustration levels and lack of readiness seemed to take effect for these students in the Basic.

F. Teacher-implemented Supplementation, Book Reports, and Grades

Most supplementations have already been mentioned. Briefly reviewed, these were: units on library and dictionary usage; survey of tests; attacking hard words; how speed rate improvement works and

applicability to specifics of content fields; better test-taking means; study habits including listening, concentration and others; how words work; and other skill insight means. These correlated usually at the insightful relationship moment of contiguity with the skill or concept concerned. Most items were also included in tests.

The library unit included reference materials which correlated but embellished reference material in Basic. Students were encouraged to read not only fiction, but also biographies and classified books. Book reports were kept simple but checked for these categories, and relationship with other school subjects was encouraged. Close cooperation with the librarian effected a rapport helpful in guiding students' choices according to ability and interest.

The three citizenship grades of "S" for satisfactory, "N" for needing improvement, or "U" for unsatisfactory was attached to the responsibility factor, among others. Students who turned in at least one or more book reports on or before the due date were entitled to an "S," other things being equal. Those who turned in late reports were accorded an "N." However, those students who still did not have any book reports by term end, were accorded a "U" for unsatisfactory, and an "F" or "Incomplete" for that term, but were personally and consistently warned that this would happen over at least a two week period. Readiness factor apparently applied here in motivation. By the end of the year, no student had an "F" for failure to have book reports; in fact, many began to develop a real enthusiasm in reading as intense teacher

and librarian guidance and motivation took effect. A kind but firm approach from the teacher was utilized. It included going personally with the reluctant reader to help him choose from his readiness and interest level. This might mean, with librarian's help, a hot rod story, a bullfighter or Mexican migratory worker story for the Spanish-American, one of a negro ball player or biography for colored students, a lively love story for girls, or just finding a high interest-low enough reading level for the retarded reader. Friendly students offered assistance in writing reports for those with writing difficulties. The student so pressured at this readiness level eventually forgave the teacher and a warm relationship plus improved responsibility almost always occurred.

An "A" or "B" level term report card grade required about three or more books of about 650 or more total pages; a "C" level meant usually two books but totaling about 400-500 pages; a "D" and "N" level was credited if only one book or about 200 pages was reported. Thus, a superior reader could read two long, high-reading level books for his "A," or a slow learner or retarded reader could read several short, easy selections for his minimum "C" level grade. Most library book reading was an out-of-class activity, but quality was overseen.

Book lists available were: boy or girl interest; types, as biographies, mysteries, adventure, science-fiction, cars, love; easy reading; college preparatory. Easy and advanced materials included: Readers' Digests, Boys' Life, and other magazines, pamphlets geared to teenage problems; paperbacks with helpful hints for improving study habits,

spelling techniques, English, and others; phonics wheels and cards; games dealing with authors, syllables, prefixes, suffixes, and roots. Some reading of library books or using any of the aforementioned materials were done as a student had time left after being prepared for a workbook level, or as a respite during Phase Three.

Those whose book reports for the first term totaled less than the term two self-selected grade levels could elevate book report credit to their desired semester final grade. Since a semester was two terms, this simply meant multiplying term one grade level totals for these desired report card grades by two. (The year course consisted of two semesters or four terms.) Thus, an "A" or "B" semester grade for report cards required a semester total of about 1300 pages or more, and a "C" meant about 900 or slightly more pages. This became an almost 100 percent relationship with workbook levels by the end of the second term. Students had the opportunity to have a semester grade according to total development at that time, not just an average of term one and two grades. So, it was possible for students to have semester grades of "A," "B," "C," and "S" even with "F's," "D's," "U's," and "N's" in term one. A plus credit to these grade levels was recorded if a student was in the process of entering a higher level, did reading greatly beyond his workbook level grade at that time, had "red A's" or did unusually well for his level on our tests. Sometimes, notes of praise were sent home if a student made unusual spurts upwards in any respect.

G. Testing and Retesting

Most tests were of the multiple choice or mix-and-match type and were written by the researcher in a vocabulary style most students could comprehend. They were presented in a spiraling fashion of: (a) short tests which concluded the introduction of a set of concepts and/or skills during Phase One; (b) retesting these sets in a two and sometimes three part series of cumulative tests near the close of term one and end of Phase One; (c) a single comprehensive test near the close of term three and conclusion of Phase Two. The course culminated in the objective reading test contained in the California Achievement Tests Complete Battery Junior High Level (41); this result was compared with entry score and discussed in individual conferences. Care was taken that there was no teaching geared to prime the student, either premeditatively or specifically on these items.

Tests were given for these purposes in relation to students: (a) to check strength of concepts and skills as first introduced; (b) to review these tests upon return for further strengthening, learning how to learn from mistakes, and proximity for teaching how to improve test-taking skills; (c) to check retention and strength of concepts and skills at close of Phase One to facilitate transfer to Phase Two; (d) to return tests from Phase One close as per point (b) above; (e) to check retention and strength at close of Phase Two to facilitate transfer to Phase Three individualization. Tests expedited teacher knowledge of individual differences in action, initially and as they progressed; they eased the

task of grading for term one when students were not self-selecting their grade levels. Analysis was not included in the grading, as it was given prior to teaching.

The following tests were usually given during intermittent periods of Phase One, but before its closing finals.

1. SURVEYING, ORGANIZING, OUTLINING: (25 points) Following survey of textbooks this correlated with outlining concepts for major and minor ideas, and organizing set in Basic.

2. SUMMARIZING AND ORGANIZING: (24 points) Given in proximity to the above, it concluded this set in the Basic.

3. LIBRARY USAGE AND REFERENCE - TWO PARTS: LIBRARY USAGE was given by our excellent librarian following her presentation. This was a mutual decision to aid her rapport with these students. The REFERENCE test followed the researcher's presentation; material coincided with, but embellished, similar material in the Basic set. Timing for these tests varied for Phase One or Two, depending upon availability of the library.

4. DICTIONARY SURVEY: (25 points) This material was often presented after the last two sets of Basic and preceeded the 25 incisive pages, following the dictionary study unit as a supplementation.

5. SUMMARY OF SKILLS: (27 points) This followed the incisive pages and preceeded return of the analysis from "Survey Tests."

When the analysis was returned, many students had already improved, probably due to insight teaching methods for basal skills.

Following return and review of the analysis, near the close of the first term, a 40 point REVIEW OF BASIC ANALYSIS was given; this was a simpler, shortened version of most elements organized in a multiple choice test. Other concepts and skills, with the exception of library and reference, were compressed in a 45 point OVERVIEW OF GENERAL UNDERSTANDINGS test. A LIBRARY REVIEW of both usage and reference was given later, sometimes, but not always, near the close of Phase One. These usually terminated Phase One tests.

Testing at the conclusion of Phase Two was the COMPREHENSIVE 62 POINT TEST. This completed tests with the exception of the California Achievement Test given at the end of the year.

Since much of this course emphasized mature growth in reading through utilizing clear understanding of concepts and skills basic to all levels, these tests were another means of clarifying them through a continuing series of partial insights. As stated earlier, insightful learning is particularly conducive to transfer and resistant to forgetting.

CHAPTER IV

METHODS FOR INSIGHT LEARNING AND TRANSFER OF SKILLS

A. Developing Insight Learning and the "Red A"

While seeking solutions to the practical teaching problems involved in this program, the researcher arrived at an integrated theory for learning which she hoped would work in the program. Primarily cognitive-insight, it also borrows from the other two major theories the concepts of contiguity and reinforcement. Since most reading skills are basal for grades two through twelve, a basis for method might be one that attacks these skills in an approach most conducive for the type of strength in a skill which would transfer best for a growing maturity in use. If insight learning is most resistant to forgetting and conducive to transfer, then perhaps conditions could be set up to develop and promulgate the kind of thinking in which insight learning could flourish.

Paramount among these conditions would be the aspect of contiguity, or striking while the iron is hot! Initial introduction to a basal skill should not be a cut-and-dried approach, a blunt statement, if any, of what it is. This crucial first introduction would include the teacher knowing the intricacies of the skill, where to find it, and having handy other insight-provoking means which could electrify the current from first spark of groping insight-thinking to red hot! Phase One

concentrated on just this, and most instances came while we were checking student answers from the Basic, done without help, or other sources. Basic in Phase One was total class group action, or one group. Here, language and situations are often comprehendable at about fifth grade level, so most students could handle the ideas concerning that basal skill without frustration. Now--the skills involved on that Basic page are critical, not the number of pages checked in a day or even a particular student's grade on that page. When developing for insight thinking towards a skill, nothing should be allowed to distract the process of group interaction towards it except the ringing of the bell!

The class was introduced very early as to how we would grade this Basic; no F if any effort on a completed page. Certain Basic pages were assigned as a set, and these sets were closely related in their types of skills and/or to most basal skills we would encounter. Pages were assigned, a due date allowed that even the slowest could finish comfortably, and they were thrown on their own. No help of any kind was given in advance to the group, and only to such individuals as came to the teacher after an independent effort. Teacher guidance was meagre at this point so future guidance would be more meaningful. Early finishers brought library books.

On assigned due date, most students were ready with whatever answers they had for these insight developing pages. Those students who were still not ready due to poor habits of work, usually capable laggards, were informed to record their own "F" for that page, and were

guided to recognize and evaluate for such poor work habits. Nor was an incomplete page for the same reason given the dignity of a grade, but likewise evaluated for incompleteness. Although these students were few, the importance of their recognizing this low readiness level was essential for them. Later make-up was allowed as motivation level elevated. One set was intentionally over-estimated for due date. When the reason was given to the class on the day we actually checked, it was apropos to constructive sense of humor. Evaluative "poor work habits" for an unprepared page was then written by the student--often with a chuckle. This was handled kindly, with humor, but firmly. At all times, students checked their own workbooks, but the teacher monitored this to some extent.

We were now ready to check that Basic set for the class as a single group, with the skill of preliminary poor work habits settled as a prerequisite to be conquered first by those to whom it applied. Now, as we discussed the checkbook answers for correct responses, an alert eye-to-eye contact with students was maintained. When the teacher's series of questions leading up to the reasons for how that skill operated for a correct response was seized upon by a student with that fiery spark of sudden insight-thinking in his eyes--he was called upon for his facts and opinions. These had to be logically expressed by him, but some vocabulary help might be gently suggested. Not only the bright achiever, but also all types of students were chosen and guided from time to time for this, opportunity for all eventually being given for one or more "red

A's." Congratulations for the type of thinking was heartily extended, and the student himself was allowed to mark a "red A" on the roll for that day. Zest and constructive excitement now reigned, and students eagerly asked him to repeat his answer. No prior notice of a "red A" coming that day or when was usually given; improved listening and paying attention habits were a side effect.

The concept of a "red A" being attached to insightful thinking was established and became a continuing process. Its value was explained as being a form of recognition for this type of thinking, and somewhat equal to a test grade, being incorporated in term grades as mentioned heretofore. According to theory, the greater the size of the reward, the greater the possible reinforcement. These "red A's" became attached to insight thinking instances in general, and to resulting application of skills in a mature way later, whether they were in related situations or for certain pages.

So that familiarity did not breed contempt, it was used with discretion. Sometimes several days would go by, followed by a sudden rash of them as appropriate insight thinking application in learning was recognized as predominant. Spontaneity was encouraged. Students recognized this type of learning operating, and demanded it be given for a contiguous relationship in these and other situations. The teacher gracefully acceded; what they thought they "put over on her" was really what she was seeking--their own recognition of insight type thinking! Intriquing was the manner in which the reluctant or retarded reader, the

slow learner, the capable under-achiever gradually became incensed with a desire for a "red A," his first feeble efforts towards it, then the gentle gearing by the teacher for his achieving one--followed by group demand that he was entitled to it. Sometimes, these became the very promulgaters in the various levels of Blocks, whose responses also helped catapault others towards maturity in skill use.

The "red A" as first given in reference to a skill was not for naming the skill, but for an insightful relationship in its operation and/or application which led the teacher to state the skill. The skill was then stated as a follow-up to the student's "red A" remarks, while the class was in zestful attention. All types of embellishment now were presented at this contiguous moment--a chalk diagram, a colored chalk illustration in simple language or concrete symbols, a dramatic corallary situation of teenage interest, the use of any handy instrument such as a yardstick, and others. These will be described in more detail later in this chapter. As these were being presented in contiguity, class interaction was vital. One or more additional "red A's" were often given during discussion to facilitate and broaden extent to which more and more students had contiguous correct responses made stronger for future application as they too were reinforced by this sizable reward.

Grades were then given for responses on the Basic page. Grades for "A," "B," "C," "D," and "D minus" (no "F" for completed page) were arrived at by considering the number of items on that page with their importance to the skill use under discussion. So many misses were allowed for an

"A," so many for a "B," etcetera. Sometimes a page at this time or later in Blocks were allowed a "red A" grade on the student's grade slip if a perfect set of responses was particularly meaningful for mature use. Those whose page grades were less than "A," evaluated according to the skill applicable for the student which resulted in his less-than-A grade. (Note here the corollary to less than 90 percent evaluation in the SRA laboratory as suggested by the authors.)

Each and every workbook page at all levels and all laboratory work was required to be evaluated in this manner for acceptance. As knowledge and operation of various skills increased, students became more and more adept at this type of evaluative technique. It also aided the gradual series of partial insights towards these same ends. Grade slips for pages, number missed, grade for that page, and student's evaluations were turned in by the student in this self-checking and evaluating procedure at the close of sets or Blocks. Students' checking of their own workbooks in either the group procedures of Phase One and Two, or individually from the teacher's answer books in Phase Three, was another means towards insight learning for the student as well as relieving the teacher for more important duties of the program. Grade slips with such individual evaluations were handed in for sets as described in Phase One, and after completing each Block in Phases Two and Three. The laboratory booklets had their own places for evaluation.

B. Transfer of Skills and Evaluations

Insight type learning of basal skills in Phase One was handled in single group action at a single reading level comfortable for most. Skills involved for evaluation on a Basic page were usually stated for the student with the exception of prior need skills as will be discussed. Transfer in Phase Two was at level of need and growing maturity in smaller groups of similar strength. Flexible subgrouping allowed maneuverability to higher levels of maturity as facility in handling skills progressed. Materials for subgroups and continuation of evaluative techniques were approached by the researcher as: (a) a progressive series of growing partial insights for these skills and (b) varied experiences at growing maturation levels in their use.

Class discussion at maturation levels for checking materials now entailed a greater degree of individualization in evaluative method. Growing teacher knowledge of the student as a whole entity, and growing student knowledge and ease of use with skills--enabled greater independence in individualizing evaluations within smaller maturation groups. If a student's prior consideration in attacking workbook page skills was hampered by such as: weakness in following directions, key words to directions, continuing poor work habits, inability to concentrate, or simply being in too much of a hurry for adequate use--then he would have to evaluate for these prior considerations rather than the specific higher skills involved. Teacher guidance in this aspect was supervisory but pointedly exact. When and if these prior considerations were fulfilled,

we could then assume small group action to the skills at hand, and evaluate accordingly. The use of "red A's" continued in group discussion and on pages.

Transfer in Phase Three gave greater breadth of varied experiences in a wider range of ability levels, up to and including twelfth grade. Also, some opted to join higher levels in remaining Blocks from the Scott, Foresman series now. As noted earlier, it was self-operating and completely individualized. When students checked their work either from The New Basic Readers' answer books or answer cards from the SRA Laboratory, they recorded their own evaluations for skills, either prior need ones or per content of the specific material. Teacher aid and guidance was given only as requested, or in the detective type process discussed earlier.

C. Conceptualizing Basal Skills for Insight and Hierarchy of Skills

1. Conceptualizing basal skills

Insight thinking involves clarity of concepts involved. The researcher's plan of attack in this program, therefore, required that a skill be approached as a specific concept. The concept of this skill, basal for grades two through twelve, then became the important factor for application. It was the tool, whereas workbook and lab pages were just materials for practice and growing partial insights to develop facility with these tools. Note that method described approached pages

Chart 4. Methods: Organizing insight learning of skills towards complete individualization

PHASE ONE: 1. Overview of most basal skills for all students presented in single group action. 2. Future conditions for transfer set up by developing insight learning for skill knowledge and application. 3. Evaluation by skill presented by teacher but written by student.

PHASE TWO: 1. Subgroups and flexible entry for skill experiences at maturation levels handled in smaller groups. 2. Application of insight learning continues; series of small partial insights combine for strengthening of skill knowledge and use in a growing maturity. 3. Evaluation by skill in subgroup maturation levels enhances 2. above. Growing independence by student in recognizing skills applicable for him.

PHASE THREE: 1. Independence in individualized process of still more varied experiences within still wider achievement range. 2. Strength and application enables this independence. 3. Evaluation by skill continues, but is handled independently by student in a self-checking process. Teacher aid given only as needed.

as skills involved, not a mere set of answers to be checklisted. It seemed imperative to the researcher, then, that these conceptual tools had to be clarified first and foremost for effective use in the program as envisioned.

Clarification of conceptual tools meant, according to the heterogeneous nature of the class, that devices had to be found to approach these concepts from more than one way for insight. The vocabulary pertaining to these skills on index pages of The New Basic Readers workbooks, were not always practical for this program in their present form, although they no doubt are in other approaches suggested by the authors. Also, the researcher wished to transfer these skill concepts for insightful application to other Scott, Foresman levels, to the SRA laboratory, and for practical transfer suggestions in subject content fields. Stated another way, goal was to set up skills as insightfully--arrived-at concepts which could transfer to relevant situations at this or future times.

Vocabulary had to be kept relatively simple, sometimes revising terminology for heterogeneous meaningfulness. It required concrete explanations and demonstrative examples of some common reading terms, as "context." Certain types of students can be reached best by concrete items and symbols or dramatic type situations, rather than abstract terminology. Still others can establish a rapport with a skill concept only when a personal situation almost literally "hits them over the head," as in "poor work habits" described. Eye and mind contact, spontaneously

created relationships, as well as predetermined means presented fresh for the contiguous skill introduction--are essential. It sometimes was appropos to note relationships of some skills as maturity developed. Means most effective for the above will be presented, but others are available.

The researcher viewed this course as a means of catapaulting reading comprehension for effective transfer to most study content fields, better enabling the student to reach his self-actualization with inherent self-satisfaction. Authorities do not concur as to exactly what comprehension is. No longer thought of as a lump sum, Nila Smith calls it ". . . higher thinking processes of interpretation and critical thinking . . ." (39, p. 149) Hildreth says ". . . getting the meaning is all that counts . . ." (20, p. 545) However, the researcher tends to agree more with Smith and Dechant, who state that certain abilities ". . . are basic to understanding and may be called comprehension skills." (38, p. 213) Respecting certain abilities being basic for comprehension skills, the researcher is including some skills not always in these lists, but which she considers essential.

2. Hierarchy of skills

Maslow stated that lists of drives get us nowhere for practical purposes (24), and proposed his hierarchy of motivation; this hierarchy gave the researcher a clue for comprehension skills. This would be a three-level hierarchy in which the first two levels must have their needs

met first in order to satisfy the third. The first level might be associated with attitude, the second with attack, and the third with higher thinking processes. As such, they were usually discussed in Phase Two checking for the first two steps, before proceeding to check the third step of this hierarchy. Deficiency in previous two negate possible attainment per actual ability of the third.

1. First level of hierarchy pertaining to attitude. These would include such as "concentrating," "paying attention and listening," "poor work habits," and "hurrying and careless," and were so evaluated if they preempted a student's higher thinking processes. "Poor work habits" for procrastinating has been discussed; this required readiness level approach from the teacher on an individualized personal basis, with motivational procedures used as mentioned. This was often, but not always, effective--probably because of psychological factors of long duration.

"Paying attention and listening" was demonstrated as listening to a current radio news broadcast which had a series of interrupting, static-type beep-beeps completely garbling the message. This was usually presented right after the library test in which the librarian lectured and demonstrated very well, but during which some students continued habitual poor listening and paying attention habits. Those whose known ability prophesied better than actual performance due to this respect, were drawn into our group post-test discussion. Continuing deficiencies in this respect usually needed only the reminder,

"you're staticing" to be effective.

"Concentrating" skills needed a series of applications with conferences to help the student overcome this deficiency. The capable underachiever who often had no great difficulty at elementary level found his long-term habits inhibiting progress at secondary level. It sometimes applied where self-actualization prospects were impeded for some in special groups because of cultural mores, lack of identification with school, or lack of successful experiences early in the school career. It did not apply to those slow learners who tried desperately to achieve at their enrolled grade level. Contiguity was made to easy reading material with complicated ideas which required this skill for efficient performance. The mind was compared to ten open fingers, lack of concentrating as using less than this total by closing some, and comparing this use of less than total application as being a symptom of partial, but not possible attainment. Boys enjoyed the comparison to letting a perfectly good car engine sitting around unused, open to the elements, and getting rusty. Effective also, were private conferences with serious cases. Suggestions for improving concentration span involved a complete change of attitude towards daily life. Concentrating means pulling out the file drawer for school during school time, keeping other files closed. Then open the recreation file for such as skiing or boy-girl relations during afternoons and weekends at their appropriate times.

"Hurrying and careless" was sometimes evaluated if it, and not

a higher level of hierarchy skill, truly applied. In this type of evaluation, it was recognized that these poor work habits negated possible achievement here, and hindered growth in actual skills to be discussed.

Some apparently capable students doing poorly in school subjects are in need of psychological help. When some of these students almost consistently fell down on the third or fourth successive try of a low grade level in the SRA Lab, partial insight to their problem was perceived. No pattern of skill difficulty was involved, but rather a "fear of success," for this meant to them an expectation of continuing successes--a pattern they felt would swallow them up.

2. Second level of hierarchy pertaining to attack. The SQ3R method of attack was originally introduced to the class when we surveyed our textbooks in Phase One. This is the method utilized in the SRA Laboratory. For comprehensive overview of this, see Robinson's Effective Study, Revised Edition (34). Also see material in the SRA Lab (32). Surveying the whole and questioning was compared to working out a mental roadmap, such as marking route lines before proceeding on a long car trip. When surveying our texts, we did this first as a full text from cover to cover, then applied it to the study of a chapter or part of one as it might be assigned in history, then to a specific page such as in math. It also was demonstrated when tests were returned for this aspect, or quickly surveying the whole test before proceeding to answer any single question. It was consistently referred to in page attack. Generalities of reading skills were lightly touched upon here,

and embellished later, as were the review and recite portions. This attack method was referred to during Phases One and Two, but applied intensely during Phase Three in the SRA Lab.

As a prior level of the hierarchy, "survey" was correlated with "following directions," "key words to these directions," and "studying the samples" thoroughly for comprehension. This was emphasized for full understanding before proceeding at any time to practices which followed, whether on a page or in subject content fields during the course. Specifics were pointed out in class process before checking for higher level skills, such as locating key words of single or plural nature, and the difference between degrees of some and many, all and most, or none. The best approach here was when the student came for individual help to the teacher. She was then able to guide the student in his locating such key words or organizing the study sample himself--according to procedures discussed in group.

The problem of "rigid attack" versus flexible was correlated with "shades of meaning" and dictionary entries for meanings 1, 2, 3, etcetera. "Shades of meaning" belong in the next hierarchy, but it adequately and clearly demonstrated the results of "rigid attack." "Shades of meaning" is the researcher's skill reference for words having more than one meaning in context, ranging from light pink to deep red, but still within a prime color; whereas a homonym of completely different meaning would be compared to a different prime color. Using only one shade of meaning for a word, as the pink shade, demonstrated the

problems inherent in "rigid attack," and seemed to work over a period of time with these students as their problem demonstrated itself.

Levels of vocabulary were demonstrated to the class, such as a person being able to understand more words in silent reading than he would use in oral or written expression. How being able to comprehend at a comfortable level when there were not too many missing pieces to the contextual comprehension solution was compared to working out a jigsaw puzzle. Too many missing pieces, as in comprehending reading vocabulary, means not being able to complete the puzzle without frustration; easily spotted key pieces enable ease of completion when most pieces are there. How to use context was incorporated here. Clue discussions of tele-,-graph and -gram, and -port were utilized in how words work, then a "red A" given to each student who whispered in the researcher's ear the actual word of "teleport" used in a science fiction story. This was fun, many "red A's" were given, and it was preceeded by a lively contextual situation of being whooshed instantly to a vacation on Mars or Venus sometime in the future.

How we learn words was described as the baby creeping towards a hot stove, being warned "hot, hot" by the mother, and his yelling "hot, hot" when he touched it. Another example was that of a poor Asian Indian saving a rajah's son, and being offered a reward in rupees. Rupee was easily recognized by the class as meaning a form of Indian money. For comprehension, use of "context" was described as necessary to keep the "train of thought." Reference to the dictionary should be

at the end of a large thought unit if context doesn't work--thus facilitating speed and comprehension. The following was placed on our bulletin board.

READING HARD WORDS

> 1. Look for known parts. Is there a root you know? 2. Now fill in the rest of the syllables. Your "ear" may now recognize the word. 3. Try more than one way of sounding out the pronunciation. Does your "ear" recognize it now? 4. Continue! Don't lose speed or train of thought! Keep up comprehension. As you continue, the word may make sense in later context. 5. If context doesn't work, use the dictionary at the end of an idea unit. 6. To improve speed with comprehension, read in larger groups of words and phrases that go well together for ideas.

Overemphasis on one level of reading can affect later progress at a higher level. Thus, an emphasis on sounding out syllables at the early elementary levels, if it continues, can impede speed for comprehension at the secondary level and become a serious attack problem even for superior readers. Silent rate should exceed oral. Reading in chopped up syllables was demonstrated as hampering comprehension and compared to chopped up hamburger. Different reading rates for comprehension per type of content field was specifically discussed. Gradually enlarging the swoop of number of phrases that go well together for ideas is the generalized clue for improving rate while maintaining or improving comprehension.

In this hierarchy, "surveying the whole," "following directions," "key words," or keywords to directions," "studying samples," "rigid attack," "using context," "using dictionary" were the usual evaluations.

Some as "context" and "shades of meaning" for words cross kaleidoscopically to the third hierarchy. Page exercises for phonics were usually evaluated for the preceeding two levels, or simply for "sounds of vowels," "consonants," "syllables," or "accents" in weakness. We also referred to more than one dictionary for phonics, so that students could maneuver more facilely in either the schwa or more complicated phonic approaches.

3. Third level of hierarchy pertaining to higher thinking processes. Kaleidoscopic cross-overs have already been mentioned, and will not be repeated. Some aspects of review and recite from SQ3R apply here. When reviewing for specific answers, scanning to "pinpoint an exact answer," like pinning the tail on the donkey, is something like scanning for a name in the telephone directory. The difference between a "best answer" for an exact fit, and another close answer that isn't exactly right is like seeking the "square peg for the square hole," and not hitting off the edges of a square one to fit a round hole. Also, when major and minor ideas are involved for a "best answer," the top of a 36 inch yardstick represents an "all inclusive answer," whereas anything beneath this may be a minor correct idea, but not right for a major all-inclusive idea. This correlated contiguously with the outlining and survey unit; it is complicated to understand even for able students. Another approach here that worked was discussing scoring in playing skeeball. If the ball goes in the center ring, it counts for 100 points, the next one for 50, then 25 and 10; but an answer whose idea scores within the outer rings

as in skeeball, doesn't count at all in most school tests--so aim for the center in "hitting the bull's eye," as best answer in generalizing.

To demonstrate "making judgments," a scale was drawn, and similar items of same color were placed on the scale with different sizes per those colored weights. So, judge a $1.25 an hour now if one quits school to support a car, but $125,000 more in an average lifetime's earnings for high school graduates over dropouts. "Drawing conclusions" was demonstrated by different colored strands caught together at strand ends in a vari-colored bow or knot.

"Chain of cause and effect" was demonstrated by a set of interlinking chains, but link point at one end of link was a result, while at its link point to the next one it was a cause joined to result of succeeding link. Relationship here to cause and effect in history, the Revolutionary War or World War III was discussed. A relevant comparison to a father becoming ill leading to the mother going to work, leading to a student having more responsibility and less comfortable home surroundings can lead either to a stronger character, or a sour, rebellious one--was more contiguously meaningful in chain of cause and effect for some.

Then, for "sequence," we took links and numbered them 1 - 5, and discussed jumping links for improper order in sequence. "Sequence" was also related precisely to key words and with material objects. "Sequence" words such as then, now, before, after, during, since, while, as and others were contiguously related. Then three material

objects were placed next to each other, with the center one representing now, and the others before and after; time order was demonstrated in relativity by keeping center object at its original "now" spot, but gradually carrying the others to opposite walls of the room, then bringing them towards center again.

Inference, which we called "implied ideas" had a ready reference for future use by a picture of sea level with one-tenth of an iceberg above sea level line, and nine-tenths of the iceberg below for ideas inferred or implied but not stated.

"Compare and contrast" was demonstrated by two sets of objects with different shapes to represent various traits; then these objects were colored either the same for comparable characteristics, or in different colors for contrasting characteristics of the same trait. This was often carried over to comparing and contrasting two students in the room, or simulated characters in literature or current events.

"Relating ideas" was represented by five objects with one in the center, then connecting them with lines relating them as center hubcap, spokes, and wheel.

Sensory imagery and emotional reaction was discussed as the reader "getting inside the skin" of the character.

A lively discussion of how an American and English history book might refer to the Revolutionary War, or a Russian and American version of a current space adventure preceeded how "author's purpose or viewpoint" worked.

"Organizing appraoch" was correlated with outlining and survey of textbooks, then carried contiguously to the two rather complicated but related pages of phonics on pages 39 and 61 of Basic. Here, organizing into the simpler three ideas of long and short vowel and controlled "r" sound practically illustrated how a few minutes spent in organizing complicated but related ideas can often result in better comprehension plus speedier and more effective responses.

Other skills mentioned in the course but not here were either too involved for a condensed version, rarely used, or handled only in individual application. The following was placed on our bulletin board.

REMEMBER!

1. Read for ideas. 2. Concentrate - don't static! 3. Use SQ3R. 4. Follow directions, locate key words, study samples. 5. Organize your thinking. 6. Work on your "trouble" areas. 7. Always evaluate your errors by skill. 8. Carry over skills to your other school subjects.

D. Transfer to Half-year Developmental Classes

Popularity of developmental reading classes increased, and there were gradually less year classes offered; more students were accommodated by instigating half-year courses. Later, ninth grade half-year courses were also offered. The researcher then taught these half-year classes plus the year classes. There will be no attempt to offer resulting statistics concerning these half-year courses, although the general trend seemed similar according to cursory tests.

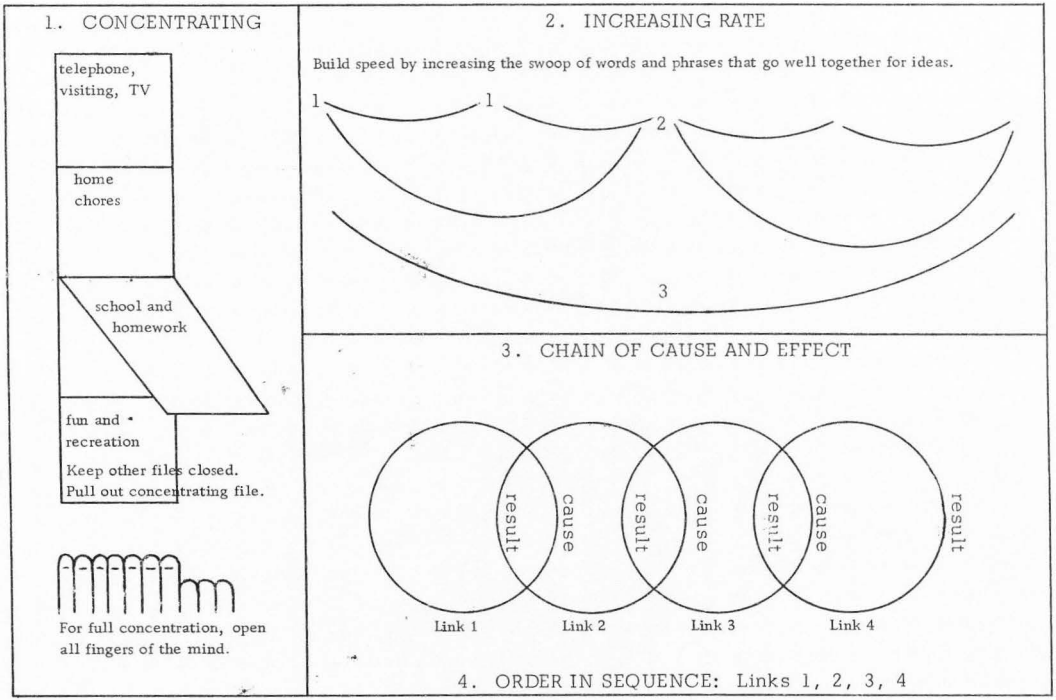


Figure 2. Some Basal Skills

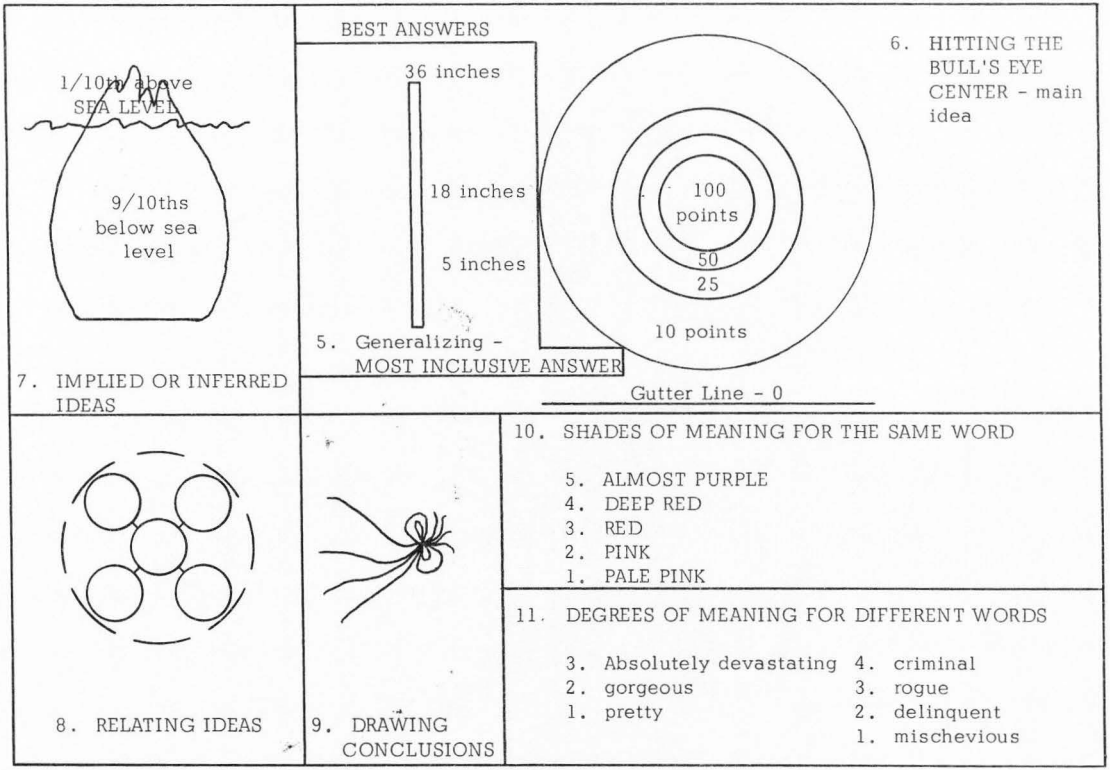


Figure 2. Continued

These courses demonstrate how transfer aspects of the preceeding may be applied. In the half-year eighth grade class, Phase One was kept intact. In term two following this Phase One, students' Basics were sectioned for areas of strength and weakness for Blocks in Basic only according to the individual need of the student. These were correlated with the SRA Laboratory for a completely individualized Phase Two of this two term course; here all material was done, graded, and evaluated for skill independently by the student similarly to Phase Three of the year course.

The ninth grade course usually comprised students who had had either the half-year or year course at the eighth grade. We used the higher level Basic Reading Skills for High School Use (29). This Basic for high school use was organized similarly to the junior high school one. Again, we gave the analysis based on "Survey Tests," and sectioned this Basic for weakness and strength. Each student worked independently in these sections. This was the minimum "C" grade. Those who chose to work additionally in the More Parades or Panoramas were entitled to a "B" grade, and those who worked in More Panoramas were entitled to an "A" grade. The "A" grade also entailed minimum ninth grade color level for the SRA Laboratory; many continued their eighth booklet.

The same amount of library book reading was maintained for qualifying "A," "B," "C," "D," and "F" report card grades in the half-year classes. The minimum SRA ninth grade color level was again

required in both for an "A," or one jump for a minimum "C." Therefore, the second half of the half-year eighth grade developmental class was individualized, and the entire half-year of the ninth grade class was individualized.

The researcher sincerely hopes that the suggestions above plus the procedures and methods preceeding will appreciably expedite individualizing approaches and comprehension growth measures for other teachers using these or similar materials.

CHAPTER V

STATISTICS

A. Introduction to Statistical Tables

The California Test of Mental Maturity, hereinafter abbreviated as C.T.M.M. was the mental test instrument; verbal or language IQ score was the statistical basis for nearly all these scores. The California Achievement Test, Junior High Level (41), was the testing instrument for grade achievement in reading; here, comprehension bifactor was utilized. Norms for 1957 or 1963 were employed, according to entering eighth grade data scores. With few exceptions, 1963 norms required better performance than did 1957 norms; difference in norms tended to favor the control group. Comparisons of anticipated achievement were based on Table 31 of the 1963 manual for the C.A.T. All students of both groups were included in statistics, with the exception of those in either group for whom IQ and/or entering eighth grade achievement scores were not available, or if a student left at any time during the course for transfer or for remedial reading.

The control group, 156 students, were under various teachers for the 1957-1958 year; this will be referred to as 1. Lit. for the literature program. The experimental group, 175 students, were under the tutelage of the researcher over a period of three years, 1962-1963, 1963-1964,

and 1964-1965; this will be referred to as 2. D.R. for the developmental reading program.

Where the last digit concerned was five or over, the preceeding one was raised one digit. Standard deviations are available but will not be expressed; in general, the standard deviations for the control group was somewhat wider than the experimental group, but these differences were not extreme. Unless stated otherwise, statistics will refer to means.

B. Statistical Tables

Table 1. IQ Scores--C.T.M.M. Verbal or Language

	1. Lit.		2. D.R.	
	Cases	Mean	Cases	Mean
IQ total means	156	97	175	96
Boy versus girl ratio				
Boys	92	97	108	97
Girls	64	96	67	94
Case spread	high: 150 - low: 65		high: 126 - low: 65	
Cases per types of learners				
Slower: 65-79 IQ		21		19
Slow: 80-89 IQ		19		34
Average: 90-110 IQ		91		100
Superior: 111 IQ or more		25		22

Table 2. Total means of comprehension growth expressed in grade levels

	1. Lit. Score	2. D.R. Score
Beginning mean grade	7.2	7.2
Ending mean grade	8.2	9.0
Total mean growth in grades	.9	1.8

Table 3. Cases and percents for ends of high and low in comprehension growth--expressed in number of grades grown

	1. Lit.		2. D.R.	
	Cases	Percent	Cases	Percent
.0 or less (remained static or regressed)	33	21.15	5	2.86
.1 to .9 or less than one year's growth	57	36.54	29	16.57
1.0 to 1.9 or growth of one year or more but less than two	38	24.36	77	44.00
2.0 to 2.9 or growth within a two-year range	20	12.82	41	23.43
3.0 grades or more, or growth of three years or more	8	5.13	23	13.14

Table 4. Cases and percents for ends of high and low in comprehension growth--expressed in grade levels achieved

Level of grade	Began				Ended			
	1. Lit.		2. D.R.		1. Lit.		2. D.R.	
	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
12.0 and above	1	.62	0	.00	3	1.90	14	8.00
11.0 - 11.9	2	1.26	1	.58	2	1.26	8	4.57
10.0 - 10.9	8	5.26	6	3.42	26	16.67	22	12.57
9.0 - 9.9	15	9.60	12	6.85	21	13.44	37	21.15
8.0 - 8.9	21	13.14	34	19.43	25	16.03	38	21.71
7.0 - 7.9	37	23.70	44	25.15	40	25.60	37	21.15
6.0 - 6.9	27	17.29	45	25.72	14	8.98	14	8.00
5.9 or less	45	28.80	33	18.86	25	16.03	5	2.85

Table 5. Comparison of slow, average, and superior learners expressed in means of total growth in number of grades grown

Type of learner	1. Lit.			2. D. R.		
	Began	Ended	Grew	Began	Ended	Grew
Slower 65-79 IQ	5.5	6.1	.7	5.9	7.0	1.1
Slow 80-89 IQ	6.6	7.0	.6	6.2	7.7	1.5
Average 90-110 IQ	7.3	8.3	1.0	7.3	9.1	1.8
Superior 111 IQ or plus	8.9	10.1	1.2	8.8	11.0	2.3

Table 6. Comparison of IQ and grade ended to amount of growth[a].

Growth in number of grades	1. Lit.			2. D. R.		
	IQ	Begin	End	IQ	Begin	End
.0 or less - static of regressed	97	8.0	7.6	103	8.5	8.2
.1 to .9 growth	96	7.2	7.7	92	7.0	7.6
1.0 to 1.9	95	6.9	8.3	93	7.1	8.5
2.0 to 2.9	99	7.0	9.2	97	7.1	9.5
3.0 or plus	103	6.7	10.2	105	7.9	11.5

[a]See Table 3 for wide variance in number of cases per two groups.

Table 7. Boys versus girls comparison

	1. Lit.				2. D.R.			
	IQ	Began	End	Grew	IQ	Began	End	Grew
Boys	97	7.3	8.1	.9	97	7.2	9.2	2.0
Girls	96	7.2	8.2	1.0	94	7.2	8.6	1.4

Table 8. Comparison of ending scores with 8.8 - 8.9 for anticipated achievement

	1. Lit.				2. D.R.			
	IQ mean	AA[a] score	Lit. end	Difference	IQ mean	AA[a] score	D.R. end	Difference
Totals	97	8.4	8.2	minus .2	96	8.3	9.0	plus .7
Boys	97	8.4	8.1	minus .3	97	8.4	9.2	plus .8
Girls	96	8.3	8.2	minus .1	94	8.1	8.6	plus .5
Types of learners:[b]								
Slower 65-79	72	5.6	6.1	plus .5	72	5.6	7.0	plus 1.4
Slow 80-89	85	7.1	7.0	minus .1	85	7.1	7.7	plus .6
Average 90-110	100	8.8	8.3	minus .5	100	8.8	9.1	plus .4
Superior 111 plus	117	10.7	10.1	minus .6	117	10.7	11.1	plus .4

[a]AA is an abbreviation for anticipated achievement.

[b]In most types of learners, the general midpoint was used. In superior learners, midpoint of actual cases for groups was used.

Table 9. Tests of "F,"[a] "T,"[b] and "Chi-square"[c] analysis

Number of grades improved	Group 1 Lit. Cases	Group 2 D. R. Cases
.0 or less	33	5
.1 to .9	57	29
1.0 to 1.9	38	77
2.0 to 2.9	20	41
3.0 or more	8	23

[a]"F" test is 48.87.
[b]"T" test is minus 6.9.
[c]"Chi-square" is .9265. The correlation factor of .1003 verifies the general homogeneity of the two groups.

C. Statistical Summary and Graphs

That similar criteria for entrance to control and experimental groups resulted in these two groups being almost homogeneous in their nature is evidenced by: (a) the single point difference in IQ means; (b) the same entering means for reading comprehension achievement scores of 7.2; (c) the correlation of number of cases per types of learners, with the exception of 80 - 89 favoring the control group, (d) the respective numbers of boys and girls, and (e) Chi-square correlation of .1003. The "F" and "T" tests substantiate that the possibility of results happening by chance is exceedingly small.

Although the total means growth in comprehension of the control group appears satisfactory with a growth means of .9, it has startling revelations when one considers the ends of statistics. Can a program

be considered satisfactory when one realizes that an apparent total growth which seems satisfactory--actually shows that more than one out of five students remained static or even retrogressed? Compare this growth of .9 to 1.8, or double the means of the experimental program, in which less than three percent remained static or retrogressed. Growth ends substantiated that unusual spurts of three years or more was nearly triple the cases in experimental than in control, even when 1963 norms operated in favor of the control. Growth totals of 1.0 - 2.9 years was about double the number of cases for the experimental than for the control. When growth less than one year was considered, the control had double the number of cases.

Therefore, growth from one year up to 2.9 was about double, and triple for over three years; whereas growth of less than a year was less than one and a half, and static--retrogression was less than one-seventh for experimental than for control when expressed in percent of students involved.

There were four times as many experimental students ending at eleventh grade or better, although 1963 norms definitely favored the control group at these higher levels. There were five times as many concluding at 5.9 or less in the control than in the experimental group. Totals of those concluding below 6.9 or less were over twice as many for the control as for the experimental.

Types of learners for slower, slow, average, and superior progressed around double respectively for each type of learner in the

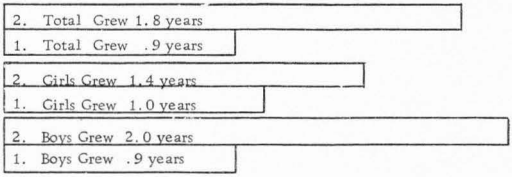
experimental over the control group. A comparison of IQ average for growth ranges from retrogression and static to over three years growth in comprehension, verified that these respective ranges were not relegated only for slow learners in the static-retrogression nor only superior learners for the ranges of unusual growth--either in the experimental or control groups.

Boys progressed over twice as much in number of grade levels for experimental over the control, but girls in the experimental had a ratio of about one-and-a-half times as much, or less than the ratio for boys. Junior high school literature text selections favor girls' type about two-thirds, whereas concretizing approaches and developmental reading selections for adventure and non-fiction are geared more proportionately for boys (38, pp. 278-9). These factors plus the similar IQ of both groups for boys, but a two point lower IQ level for girls in the experimental may have affected this particular range, as well as the researcher's possibly greater concern for boys as future breadwinners.

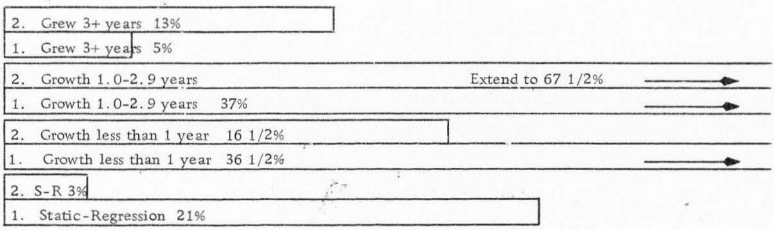
One of the most startling revelations concerns a minus factor for all types of learners and boy-girl IQ ranges per expectation of the control group, with the exception of 65-79 IQ. These were all plus factors for the experimental group.

Key
1. Literature Control Group
2. Developmental Experimental Group

I. Group Total Means



II. Reading Comprehension Growth in Years: Central Tendency and Ends



III. Reading Comprehension Growth in Grades: Central Tendency and Ends

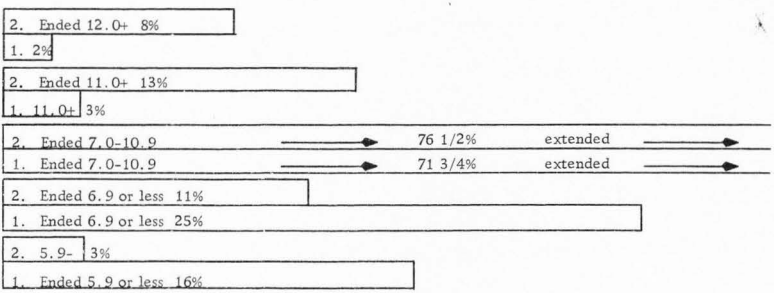
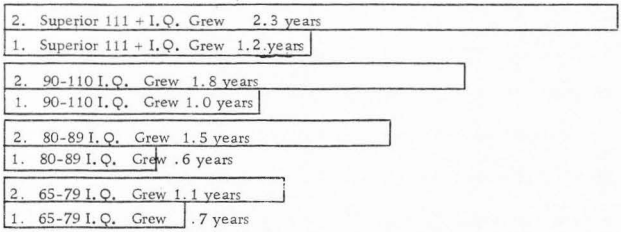
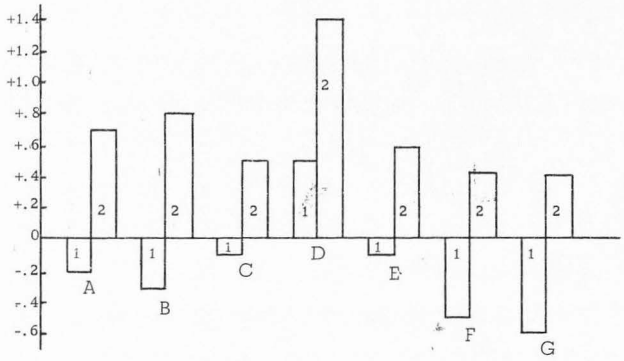


Figure 3. Comparisons expressed in ratio of differences

IV. Reading Comprehension Growth per Types of Learners



V. Anticipated Achievement for Totals and Types of Learners Compared with Actual Achievement Based on 8.8 - 8.9 Norms for 1963.



A. Totals
B. Boys
C. Girls
D. Slower IQ 65 - 79
E. Slow IQ 80 - 89
F. Average IQ 90 - 110
G. Superior 111 plus IQ

Figure 3. Continued

CHAPTER VI

SUMMARY AND CONCLUSIONS

A. Summary

Developmental reading courses may be critical to success in school and future careers per potential of the learner for all types of students. Recognition of this has led many authorities and evaluating committees to recommend that these courses be available in a continuing process from elementary through secondary and even into college levels. Educators and the lay public should be aware of the nature and purpose of these courses, and the difference between them and other types of reading courses and programs. Most developmental reading courses place emphasis either on speed for rate improvement, skills per study content fields, or basal skills attacked through leveled group materials or individual selections. The researcher's program emphasized the latter.

The problem of this thesis, which has practical considerations for others teaching in this neophyte field at the secondary level, was: what procedures for individualizing would be workable and practical, and what teaching methods could be employed, that would result in reading comprehension growth above average expectation per nature of the learner--with the problems inherent in heterogeneous grouping of

25 or more students per class? The researcher's developmental reading course comprised such students in this situation at the eighth grade level for a year. The developmental reading experimental group taught by the researcher consisted of 175 students during the three separate teaching years of 1962-1965. A control group of 156 students under different teachers during the school year 1957-1958 primarily utilized a single literature text in a year's literature program. Both groups were generally homogeneous with each other in entering IQ, starting reading comprehension scores of 7.2, and in the conditions of entrance.

Data gathering instruments were primarily the verbal IQ score based on language acuity of the California Test of Mental Maturity, and the California Achievement Tests for Junior High School (41), in which bifactor reading comprehension score was used. Materials of the experimental course were from the Scott, Foresman and Company, The New Basic Readers (16), SRA Reading Laboratory III.A (32), and teacher supplementation.

Hypothesis was based on: (a) grouping flexibility; (b) knowledge of individual differences; (c) characteristics of poor readers, types of learners from the slow to the superior, and special groups such as the culturally deprived or those considered as being from lower socio-economic categories; (d) readiness factors in a motivational hierarchy; (e) readiness factors in maturity of use for the basal reading skills from second through twelfth grade; (e) inferences from psychology and theories of learning, particularly those concerning classroom atmosphere

plus teaching for learning and transfer through insight in the researcher's integrated theory of learning. Utilizing these, the researcher contends that procedures can be organized for individual differences, and methods can be based on teaching for insight learning and transfer of basal skills in the type of heterogeneously grouped developmental reading program described for the improvement of reading comprehension above average expectation per nature of the learner.

The course was organized into three phases:

Procedure for Phase One was to introduce most basal skills applicable for grades two through twelve in a method conducive for insight learning and transfer of these skills. Two sections and 25 incisive pages from the Basic--an easy reading workbook containing most of these skills--plus a survey of study texts and skill specifics per their respective content fields, other teacher-implemented supplementation, and tests, were correlated in a method of teaching for insight learning and transfer by contiguously relating skill in application, a clear concept of each skill, and knowledge of how it operates.

Methods for these purposes were sometimes creatively devised by the researcher to accomplish these aims. How to think insightfully, encouragement and reward for it, the "red A" was introduced in this Phase One.

Concretizing concepts of the basal skills by such as colored chalk diagrams and illustrations, dramatic use of handy concrete materials or story type situations of teenage interest, and others, were also

presented during this Phase One to facilitate ease of transfer, continuing growing partial insights, and future reference to these skills for Phases Two and Three.

Phase Two procedure was based on flexible subgrouping according to the level of maturity required to use the basal skills introduced in Phase One. Each student's analysis of his areas of weakness and strength as evidenced from "Survey Tests" in the Basic at the beginning of Phase One determined which subgroup of Basic he was to work in for his individual needs at "C" level grade. Grades for "A" and "B" on report cards were self-selected by the students according to the level of difficulty they chose to add to this "C" level, according to their desire, ability, and continuing growth.

Self-selection grade levels were also attached to outside reading of library books for this and the other Phases. Material was organized into a total of six Blocks for these levels of difficulty from the Scott, Foresman Series, The New Basic Readers (16). "Listening in" credits were allowed for students' readiness decisions before optional entry to a higher level. Entry to higher levels was self-determined in almost all cases, and was a continuing opportunity for the rest of the course. About four of these ability leveled and graded Blocks handled in small flexible-entry subgroups comprised material procedure and method for Phase Two.

Phase Three was completely individualized in a self-operating procedure for the remaining Scott, Foresman Blocks in combination with

the individualized selections from third through twelfth grade reading levels of the SRA Reading Laboratory.

Organization of procedure, therefore, comprised entire class as a single group for overview introduction to basal skills, followed by flexible-entry smaller groups per maturation in use of these skills and continuing partial insights--to a completely individualized application and recognition of skills as far and as fast as a student could go.

Evaluation by skill of all work under an "A" or 90 percent level was a permanent feature of method; again this went from single group application and insight with total teacher aid in Phase One, to smaller group participation in Phase Two with evaluative ability somewhat individualized but with teacher guidance--to individualized use and evaluation of skills in Phase Three. Teacher conferences and a "detective" type process took over if a student had any persisting basal skill problems. Grades on work done went from "red A" for insightful thinking to "D minus"--but never an "F" if a student tried, because some skill learning was presumed to have taken place when we checked work due to "learning from mistakes." Teacher guidance previous to checking was kept at a minimum, or given only individually per need, to facilitate personal independent growth.

As students' work was checked in Phases Two and Three, a hierarchy of prepotent needs was applied. Checked first were skills pertaining to attitude, then skills pertaining to attack, and lastly such remaining basal skills as pertained to higher thinking processes.

Two examples of transfer for these procedures and methods in half-year classes at the eighth and ninth grade levels are described for suggestion purposes, but are not a part of statistics.

Statistics revealed that control and experimental groups were generally homogeneous in their respective natures, and that the possibility of results occurring by chance was exceedingly small. Mean growth according to reading comprehension was exactly double, 1.8, for the experimental developmental reading program over that of the control literature program. Growth in comprehension per types of learners according to IQ verbal scores were also around double for each type of learner: slower, slow, average, and superior. Anticipated achievement per types of these learners, and for boys, girls, and totals, showed a minus factor for all in the control group, with the exception of the slower 65-79 IQ range. All these had plus factors for anticipated achievement in the experimental.

Especially revealing were statistics concerned with ends. An apparently satisfactory mean growth of .9 years for the control group, revealed ends in which more than one-fifth of the students actually remained static or retrogressed in their reading comprehension, whereas this was less than three percent for the experimental. Also, over a third of control students concluded with less than a year's growth, whereas one-sixth of the control did so. Experimental had 13 percent growing three years or more, whereas control had only five percent doing so. About 25 percent of control students concluded below seventh

grade level in this factor, whereas about 11 percent of experimental group did so. Around three percent of control students concluded at eleventh grade achievement or better, whereas nearly 13 percent of the experimental group did so. However, comparative improvement of boys over girls showed that growth spurts were greater for boys than for girls in the experimental, although both were from nearly one-and-a-half to double that for the experimental than for the control. Girl's IQ means were two points less in experimental than control, but the same for boys. Hypothesis of expected improvement in reading comprehension being above average according to the student's potential for growth if methods and procedures were utilized as described in this individualized developmental reading program was, therefore, substantiated to a high degree.

B. Conclusions

Single level ability texts for heterogeneous classes in which reading comprehension is an important factor may actually be destructive for this factor in as many as one out of five students, and those students so concerned may be of all ranges of ability, including the superior. We must consider ends of statistics as well as means in determining whether or not a specific program and the materials utilized are beneficial for large numbers of students, and not base success merely upon apparently satisfactory means. Literature courses are not axiomatically conducive to improving general reading comprehension.

Some IQ scores are not reliable for actual potential, particularly if based on a culture or language other than that of the testee concerned, or because of motivational factors at the time of the test. Single IQ scores should not be considered conclusive.

Although the problems inherent in individualizing heterogeneous groups at the secondary level for developmental reading when classes contain 25 or more students are realistically tremendous, they can be solved by organizing procedures based on individual differences and by applying methods most conducive for learning and transfer--insightfully. Such organization of procedure would imply an overview early in the course of the skills basal for grades two through twelve, and these should be insightfully and concretely arrived at, if possible by using easy reading materials in a single group attack on basal skills. Methods employed should be of creative nature whenever possible, conducive to attention, interest, and a feeling of success for all types of students; a clarified theory of learning by the teacher would greatly facilitate this. Insightful learning is recommended for clarity of skill concepts and transfer towards growing maturity in use of these skills.

Individualizing successfully in heterogeneous groups of this nature can be achieved by a gradual process of single group overview of skills, insightfully arrived at, then more intensive application in smaller groups for leveled maturity use and growing partial insights. Complete individualization was a concluding part of the program utilizing an even wider spread of ability levels for application of basal

skills in a rapidly accelerating maturity use Evaluative techniques may be one key to achieving these goals, with insight learning a crucial notch in that key, as are motivational and skill hierarchies.

The researcher recommends, as do other authorities, that these heterogeneous groups be kept at a 25 student maximum. Recognition of readiness conditions for hierarchial progress in motivation, skill maturity, and other factors is essential; even this program was not too effective for those entering two years or less below the level of the introductory Basic. Course material designed for developmental reading appears to be more conducive towards unusual spurts of growth in reading comprehension for boys than does a literature program, or than it does for girls. Reading comprehension growth for all types of learners was above anticipated achievement for all; total, boys and girls, and types of learners. The control group had a minus factor for all these, except 65-79 IQ.

Developmental reading as a continuing opportunity should be encouraged for all types of learners. Teacher emphasis should be on the individual student and his needs, less on specific answers and more on the skills involved, and towards this end she should concentrate her time and efforts on teaching for learning of basal skills for maturity in application, not on time-consuming checking by the teacher of stacks of workbooks. This latter condition is best left in the hands of students, and, if wisely guided, can be done in such a way as to enhance their personal growth prospects.

The researcher sincerely hopes that those concerned with self-actualization through inherent self-satisfaction for all types of students will find the preceeding helpful and enlightening.

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