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A survey of literature on gifted child programs and suggested activities for the gifted

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A SURVEY OF LITERATURE ON GIFTED CHILD PROGRAMS AND SUGGESTED ACTIVITIES FOR THE GIFTED

Submitted by

Wilfred Joseph Turmelle
(B. Ed., Plymouth, N. H., State Teachers College, 1948)

and

Chester Zvonik

(B. Ed., Salem, Mass., State Teachers College, 1953)

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First Reader: W. Linwood Chase

Professor of Education

Second Reader: Harry V. Anderson

Assistant Professor of Education

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CHAPTER I

INTRODUCTION

Recent developments and events in the United States and abroad have brought into focus a few of the problems that have always faced the public schools. The better schools have always taken steps to find solutions to these problems. The problem of locating the gifted child and providing the program best suited to his abilities is not a new one.

Recent events abroad have caused many Americans to ask themselves a number of pertinent questions concerning the nation's educational system. One important question concerns our talented youngsters. Is the public school system offering the greatest possible service to these young people? If not, where is it failing them?

The writers of this paper have made no attempt to offer an infallible solution as to the best method of handling the gifted in the elementary schools. Rather they have surveyed available literature covering some of the methods currently employed. They have offered some suggestions and attempted to point out some of the weaknesses in the programs as they see them. The writers hope that these suggestions will cause responsible people to ponder and possibly to act in some constructive way.

Now as never before, the nation needs gifted and talented people. They must be discovered; they must be nurtured. Every person should have the opportunity to develop his particular talents to the utmost. In so doing, he will be contributing to the progress of society.

Americans are quite aware of the pressing needs of well-trained superior minds in the technical world of today. In a day when such terms as sputnik and missile are increasingly becoming a part of the vocabulary, people are concerned not only with the common man but also with the uncommon man.

In all fields of endeavor there is increasing demand for bright leaders sufficiently trained to attack the mounting problems of today and tomorrow. Educators must extend their efforts to inspire the gifted to develop their creativeness and to make the maximum contribution to society.

It has been said that the child for whom the public schools do the least is the one with special ability. The schools are accused of thwarting creativity by forcing it into a set pattern, and to many it is a pattern of mediocrity.

Too frequently the gifted have been left to "shift for themselves." Fortunately for the future of the nation, more and more schools are becoming aware that the gifted require special attention because regular programs are not adapted to their needs.

The varied needs of the gifted present many problems to the American system of mass education. The uniqueness of each gifted child must be developed; each one must be encouraged to share his particular ability with society.

Several different approaches are employed by schools in educating the gifted. The enrichment approach appears to be the most popular, but the effectiveness of much which is termed enrichment is questionable. The writers feel that many teachers should reappraise their understanding of the word.

Acceleration, special classes and even special schools for the gifted, and summer programs are further attempts to meet the problem of giftedness. Each will be discussed elsewhere in greater detail. For reasons which they hope to make obvious to the readers, and after considerable reading about various gifted programs and consultation with an outstanding authority on giftedness, the writers strongly lend their support to segregation programs which, in their opinion, best serve the gifted.

In favoring the segregation of the gifted, the writers do not see it as the only solution. The number of gifted in a given area and geography enter into any possible program. The dollars and cents factor is a poor excuse for ignoring the gifted problem.

The writers readily confess to certain weaknesses in their paper. An outstanding one is unavoidable in a phase of the work in which the writers had to depend upon available literature. Much of the material available in the area of the gifted programs was discarded because the writers felt that the articles which were written to advertise specific enrichment programs was not enrichment. The instructor who feels that he is doing his duty for the exceptional children when he lets them learn how to operate a tape recorder should have had the opportunity to share a classroom experience with one of the writers.

One of the writers, a junior high school teacher, had in his classroom several youngsters of below-average ability. These youngsters were lost in all their academic subjects, but they constituted the audio-visual department of the entire school. Their services, which they performed with devotion and exceptional ability, made them very much in demand. Perhaps there are two morals on the story. Do not burden the exceptional child with work that the slow children can not only do but can do well. A second lesson might be for the teacher who is mired by a misconception of enrichment.

The writers have included a number of suggested activities to aid the teacher who must serve the gifted in the regular classroom. Many of these same activities also serve to enrich

programs for the average and even the below-average. Whether they actually serve the superior children depends upon the teacher's approach and his willingness to let these children broaden vertically and horizontally. Like an electrician, the teacher can make and break a circuit.

CHAPTER II

IDENTIFICATION OF THE GIFTED

In this era of rapidly dwindling natural resources it is wonderful to note that one remains in unknown quantities. That valuable commodity known as giftedness has hardly been tapped; and when located, it has frequently been wasted. Surely with America engaged in a life-and-death struggle for survival with an opponent which utilises its brain as well as its brawn, this nation cannot but do likewise. It is a sacred duty to see that giftedness does not go unrecognised.

In professional circles and among laymen a variety of terms has been utilized to indicate the gifted youngster: the bright child, the superior child, the brilliant child, the capable child, and the like. Each of these terms implies outstanding ability with stress on superior intellect.

Paul Witty labels a child gifted when his performance in a potentially valuable line of human endeavor is consistently remarkable. Witty also suggests that an IQ of 130 be used as the minimum achievement of the gifted.[1]

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[1] Paul Witty, "How to Identify the Gifted," Childhood Education, XXIX (March, 1953), p. 312.

Elise Martens describes gifted children as having exceptional intellectual capacity but would rather think of them as youngsters who excel in abstract thinking and creativity.[2]

Marian Scheifele includes as gifted youngsters those who have specific talents in the sciences, the arts, the social relationships, and are additionally blessed with high general intelligence.[3]

Gertrude Hildreth is in agreement with Dr. Witty on the minimum IQ factor. She also sees the gifted children as showing a wide scope of talents and interests in normal living situations as well as in academic work.[4]

The best known studies of gifted children according to Marian Scheifele[5] were carried out by Leta Hollingworth of Teachers College, Columbia University, and Lewis M. Terman of Stanford University. They used mental superiority as the basic criterion for the selection of the children who took

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[2]Elise Martens, Curriculum Adjustments for Gifted Children, Office of Education, Bulletin No. 1 (Washington, D. C.: Government Printing Office, 1946), p. 82.

[3]Marian Scheifele, The Gifted Child in the Regular Classroom (New York: Bureau of Publications, Teachers College, Columbia University, 1953), p. 2.

[4]Gertrude Hildreth, Educating Gifted Children (New York: Harper and Brothers, 1952), pp. 4-5.

[5]Marian Scheifele, op. cit., p. 1.

part in their experimental groups. Terman utilized the Stanford-Binet Test of Intelligence and set up the 140 IQ as a standard for inclusion in his group. Hollingworth's classes were made up of children with IQ of 130 or better.

Cutts and Mosely do not treat the words "bright," "gifted," and "talented" as synonymous. They think of bright youngsters as those who could profit from a college education and are capable of doing well in their chosen careers. They see the gifted children as those with potentialities that might be greater than those of the bright. The talented, in their use of the phrase, are youngsters who show marked ability along non-academic lines, can profit from advanced instruction, and are able to carve careers in their specialized fields.[6]

A wealth of information has been written with suggestions on the identification and characteristics of the gifted child. If authorities differ in certain areas concerning the education of the gifted, they are unanimous in one belief, that no one of this group necessarily possesses all of the characteristics. They are also in agreement that the gifted should be identified early that the world may profit from their special abilities.

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[6]Norma E. Cutts and Nicholas Mosely, Teaching the Bright and Gifted (Englewood Cliffs: Prentice Hall, Inc., 1957), p. 5.

A former president of Harvard, Dr. James B. Conant, has stressed the need for the earliest possible identification of gifted children. This great educator notes the relative scarcity of mathematicians and scientists and blames our failure to identify bright youngsters with special talents in these fields. He pleads for the increased use of tests which will expose giftedness and asks for proper stimulation by teachers and parents that these youngsters will tackle their work with enthusiasm and success.[7]

The identification of the gifted is not a simple technique. Both objective test measurements and subjective observational evaluations are necessary to supply a comprehensive picture of the child's total development.

The Pittsburgh Committee reported:

> Giftedness can be identified, in any real sense, only as we watch children growing, living, dealing with their experiences, solving their problems, and further, that the persistence with which the child in his living gives evidence of accelerated growth be considered the basic criterion of giftedness.[8]

Not too many years ago it was a common belief that the majority of gifted youngsters were eccentric and emotionally

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[7] James B. Conant, The Citadel of Learning (New Haven: Yale University Press, 1956), pp. 43-44.

[8] Pittsburgh School Committee, A Report on the Intellectually Gifted in Pittsburgh Schools, A Report prepared by the Pittsburgh School Committee (Pittsburgh: Public School Publishing Company, 1954), p. 48.

unstable. Recent studies tend to disprove that belief. Educators Hollingworth,[9] Hildreth,[10] Witty,[11] and others have found that, in addition to having superior mental abilities, gifted youngsters possess other outstanding qualities. Far from being eccentric and unstable, they are more likely to be healthy youngsters, well-integrated, happy, and sociable.

Cutts and Mosely suggested that teachers follow a plan of systematic observation to locate the gifted. Such a plan, they believe, would require little additional work because classroom activities offer ample opportunities for judgment. These educators see giftedness characterized by superiority in specific achievements and processes in addition to superiority in physique and in emotional, social adjustment. As general characteristics of bright children they include:[12]

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[9]Leta Hollingworth, Children Above 180 IQ Stanford-Binet (Yonkers-on-Hudson: The World Book Company, 1942), p. 283.

[10]Gertrude Hildreth, Educating Gifted Children at Hunter College Elementary School (New York: Harper and Brothers, 1952), p. 275.

[11]Paul Witty, "The Needs of Bright and Gifted Children," National Education Journal, XXXVII (September, 1948), pp. 388-389.

[12]Norma E. Cutts and Nicholas Mosely, op. cit., pp. 18-26.

1. They often have large vocabularies and use words accurately.
2. They are able to make generalizations.
3. They have insight into problems valuable in the field of human relations.
4. They are able to engage in abstract thinking.
5. They can reason and draw correct inferences.
6. They can solve more difficult problems in mathematics and other areas.
7. They are persistent even in the face of difficulties and discouragement.
8. They generally have little trouble in memorizing materials.
9. They have foresight. Bright youngsters are more likely to be skillful in planning their activities,
10. They indicate humor with clever jokes and puns.
11. They are likely to have a wide range of interests and curiosity.
12. They show initiative.
13. They show alertness and keenness in observation.
14. They have creative ability.
15. They show critical judgment.
16. They desire to be of service.

The teacher will recognize some of these characteristics in children who are not particularly gifted; but research by Mosely, Cutts,[15] and others indicate that the gifted possess them to a greater degree. A good testing program brings out another interesting fact--that among the gifted sitting in the classroom there are many unsuspected by the teacher. A child with a high IQ but a poor start in reading could quite possibly be the biggest nuisance, the least desirable, or the most inconspicuous member of a class.

Mead urges that giftedness not be restricted as an

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[15] Ibid., pp. 8-9.

inherited capacity of the child.[14] He challenges the heredity view and urges that a broader concept be accepted for basic study and educational practice. In view of much research on his part and evidence which he has accumulated, Dr. Mead insists that giftedness is not just intellectual in character nor is it the product of growth and education. He refers to several different classifications of giftedness:

1. Giftedness of aesthetic character.
2. Superb physical gifts.
3. High moral and spiritual qualities.
4. High level social understanding and living.
5. Great economic abilities.
6. Intellectual giftedness.

Florence Brumbaugh, Principal of the Hunter College Elementary School, states that actual knowledge of what gifted children are really like and what giftedness is lags far behind the growth of public interest in the gifted.[15] She finds that the public sees the gifted child as a "genius" or a prodigy and in their eyes a genius is either an eccentric or a money-maker.

According to Dr. Brumbaugh, few intellectually gifted children are potential Carnegies or Van Goghs. They are well-adjusted youngsters, substantially superior to their

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[14] A. R. Mead, "Who Are the Gifted," Education, 79:5-7, September, 1958.

[15] Florence N. Brumbaugh, "Your Gifted Child," Good Housekeeping, 148:46-49, January, 1959.

average age peers in intellect, who are able to profit from special attentions and opportunities. Properly guided, there is a good chance that these gifted youngsters will achieve success, and even distinction, in their chosen fields.

Dr. Brumbaugh emphasizes that intellectual ability is not a single entity. Actually it is a group of skills and different gifted children possess these skills to varying degrees. Dr. Brumbaugh lists these skills as verbal, numerical, spatial, and reasoning.

A recent (Fall, 1958) bulletin published by the New York Department of Education offers some excellent ideas for educators working on programs for the gifted in secondary schools.[16] Of interest to the writers were suggestions for identifying the gifted and traits indicative of giftedness.

The bulletin lists three types of giftedness that have received recognition:

1. Intellectually gifted who generally do well in scholarly activities.
2. Talented and creative in special fields such as art, music, and mechanics.
3. Those with ability in self-direction and social leadership.

The third type of gifted seems to have its own list of accompanying traits. In some instances the traits appear

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[16] Fifty-Six Practices for the Gifted, Bureau of Secondary Curriculum Development Bulletin (Albany, New York: A State Education Department Publication, 1958), p. 16.

to be associated with excellence in types one and two.

According to the bulletin, the gifted youngsters who have unusual capacity for wise self-direction and social leadership are likely to be associated with these traits:

1. Do effective work independently.
2. Frequently concentrate on goals that are remote, poorly defined, and possibly unattainable.
3. Show evidence of emotional stability in ordinary behavior and in interviews with school psychologist.
4. Have keen sense of humor.
5. Have sharp sense of justice.
6. Criticize themselves and modify their behavior accordingly.
7. Incorporate suggestions of others into their own feelings and action.
8. Assume leadership in some situations, yet follow in others.
9. Have leadership qualities as shown by sociometric devices.
10. Plan opportunities for other pupils to participate in school activities.
11. Exhibit initiative in starting worthwhile ventures.
12. Have superior ability in planning, organizing, and promoting.
13. Have wide interests or strong interests in a few areas.

The writers have already noted the need for the use of objective measurements to identify giftedness. These should include tests of intellectual ability, scholastic achievement, talent, and social-personal development.

The writers feel that it would be wise to list a few different tests that might be helpful in locating the gifted and assisting their teachers in spotting their weaknesses and planning programs for them.

DIAGNOSTIC TESTS

1. Gilmore Oral Reading Test, I-VI, World Book Company.

2. Los Angeles Diagnostic Tests, Arithmetic Fundamentals, II-VIII; Arithmetic Reasoning, III-IX, California Test Bureau.

3. Durrell Analysis of Reading Difficulty, I-VI, World Book Company.

4. Brueckner Diagnostic Arithmetic Tests, IV-VIII, Educational Test Bureau.

5. Buswell, John, Diagnostic Test for Fundamental Processes in Arithmetic, Public School Publishing Company.

6. Diagnostic Reading Tests, VII-XIII, Committee on Diagnostic Reading Test, Inc.

GENERAL ACHIEVEMENT TESTS

1. California Achievement Tests, I-XIV, California Test Bureau.

2. Stanford Achievement Test, I-IX, World Book Company.

3. Cooperative Achievement Tests, VII-XVI, Educational Testing Service.

4. Iowa Every-Pupil Tests of Basic Skills, III-IX, Houghton Mifflin Company.

5. SRA Achievement Series, II-IX, Science Research Associates.

GROUP TESTS OF MENTAL ABILITY

1. SRA Primary Mental Abilities Test, K-Adult, Science Research Associates.

2. California Test of Mental Maturity, K-Adult, California Test Bureau.

3. Differential Aptitude Tests, VIII-XII, Psychological Corporation.

4. Cooperative School and College Abilities Tests, VII-XIV, Educational Testing Service.

INDIVIDUAL INTELLIGENCE TESTS

1. Wechsler Intelligence Scale for Children, 1949, ages 5-15, Psychological Corporation, New York, N.Y.

2. Arthur Point Scale of Performance Test, 1947, ages 4.5-adults, Psychological Corporation, New York, N.Y.

3. Intelligence Tests for Children, ages 2-11, Methuen and Co., London, England.

4. Revised Stanford-Binet Scales, ages 2 and over, Houghton Mifflin Company.

SPECIAL TYPE TESTS

1. Tests in Fundamental Abilities of Visual Arts, grades 3-12, California Test Bureau.

2. Seashore Measures of Musical Talent, grades 5-8, Psychological Corporation.

3. Wing Standardized Tests of Musical Intelligence, ages 10 and over, Sheffield Training College, Sheffield, England.

4. Musical Aptitude Test, grades 4-10, California Test Bureau.

5. Meier Art Test, grades 7-12, Bureau of Educational Research and Service, State University of Iowa.

6. Vineland Social Maturity Scale, childhood to maturity, Educational Test Bureau.

7. Stenquist Mechanical Aptitude Test, grades 6-12, World Book Company.

8. Revised Minnesota Paper Formboard Test, ages 9 and over, Psychological Corporation.

The writers cannot stress too strongly the great need for thorough testing and, after the testing, a real effort to help all gifted children.

CHAPTER III

PROGRAMS AND PROCEDURES FOR THE GIFTED

Taking care of the gifted is most certainly a responsibility of education and of educators. It is a moral obligation for true believers in a democratic way of life.[1]

Five different approaches have been typically employed in public education for the education of the gifted:

1. Enrichment, which appears to be the most popular approach, means individualizing instruction and stimulating the gifted child to grasp more complex and extensive ideas than do his less intellectual classmates.

2. Acceleration, which means that the gifted child is moved from his age group to a higher one in order to stimulate him and provide him with instruction more in keeping with his mental age.

3. The special class or special school for the intellectually gifted.

4. The tutorial plan, whereby the child is allowed to remain in his regular class and spend the major part of his time with his age peers. A tutor works with the gifted

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[1] Richard S. Dabney, "The Responsibility of the School in the Education of the Exceptional Child," Exceptional Children, 20:87-88, November, 1953.

individually or in a group to explore work of an advanced nature.

5. Modification of the special class plan in which the gifted are kept with their regular classes and age peers for a half day and in special classes for the remainder of the school day. With their age peers, the gifted get their basic academic studies; and in their special classes they are provided with a program enriched far beyond the realm of possibility for the regular class situation.

In an effort to determine just what and how much is being done for the gifted children in America, the writers have scanned numerous books and periodicals for help. In the following pages the results of this research would seem to indicate that progress is being made. Unfortunately, many schools and school systems which are probably doing excellent work with their gifted have not published accounts of their attempts and the results. The writers plead for a greater sharing of programs and procedures by schools which are working with the gifted.

I. ENRICHMENT PROGRAMS FOR THE GIFTED

Many people who strongly disapprove of ability grouping and acceleration have seized firmly upon enrichment as a worthy substitute. The opponents of enrichment who see it as

an excuse for impulsive, haphazard planning are either becoming more numerous or more vocal.

Enrichment is basic to all good teaching. It occurs in all worthwhile plans for providing for our gifted. Forcing the gifted to the stereotype pattern which has been fashioned for the average could well lead to undesirable intellectual habits. It could also lead to emotional maladjustment.

Enrichment entails a good deal of time and effort on the teacher's part if it is to be truly beneficial to our bright children. It is to be hoped that this reason alone is not a factor which tends to reduce opportunity for enrichment. The rigid departmentalization which is common in secondary schools should not be a hindrance to our elementary programs for the gifted.

The more common objectives which have been advanced by those who favor the enrichment program are several. Enrichment:

1. Develops a love of learning.
2. Broadens the base of knowledge.
3. Deepens understandings.
4. Encourages initiative and creativity.

Enrichment should never mean that the bright child gets extra work merely to keep him busy or an opportunity to waste part of the school day and perhaps bother his less-fortunate classmates.

The teacher's role is not one of merely making gifted pupils responsible for plans and activities. He must assist his bright in constructive planning, take careful note of all progress, criticise, and never lose sight of the fact that even the gifted occasionally need specific instruction and drill.

The wise teacher knows that the sky is the limit as far as enrichment is concerned.

The writers surveyed a number of articles written by teachers and principals concerned with enrichment as a means of handling the gifted. Some of their findings follow.

Alabama Public Schools[2]

Alabama's Education Bulletin Number 11, of 1950, suggests that children should never be grouped from an alphabetical listing. It calls for grade groups or sections composed of boys and girls who are representative of all the various levels of achievement, a spread in mental abilities, and the varying number of years spent in school. The plan asks for an approximately equal number of gifted, average, and less capable in each classroom.

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[2] Guide for Teachers in Montgomery Schools, Instructional Series Bulletin No. 11 (Montgomery, Alabama: Wetumpka Printing Company, 1950), pp. 167-169.

The bulletin suggests that teachers in each room must provide adequately for individual differences. This would mean the use of many types of learning activities, and the use of a wide variety of instructional material.

Beaver River Central School[3]

In 1955 Lewis County, in rural New York, made a county-wide survey of exceptional children in cooperation with the state's Department of Education. It was the first of its kind in rural New York.

It was believed that an initial step for working out a program for the mentally superior child should be to explore the problem and use one school in the county to test various solutions. The principal of the Beaver River School expressed concern for his own gifted youngsters, and his school was chosen to commence the study.

The teachers of the school spent a considerable time making plans for the identification of the gifted children. As the program itself developed, it was largely one of classroom enrichment.

A small number of the school's gifted, representing several of the elementary grades, were invited to serve as

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[3]Glyn Morris, "Helping the Mentally Superior Child," Exceptional Children, 22:161-162, January, 1956.

the staff of a school newspaper published at regular intervals throughout the school year.

The county supervisor and the school principal serve as resource people for the teachers of the gifted children, but the individual teachers get their greatest assistance from a sharing of experiences, ideas, and knowledges with fellow staff members.

Boulder Public Schools[4]

Interested laymen and educators of Boulder, Colorado, are devoting a great deal of time and effort to the development of sound educational provisions for the gifted. At the present time there is a central tendency toward enrichment for the gifted in Boulder's schools, but more and more people are favoring acceleration and segregation.

The school community is attempting to assist the families of superior children to understand the challenges of giftedness and the greater responsibilities to be shouldered by the gifted.

Cedar Rapids Public Schools[5]

A measured experiment with mentally advanced children was

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[4]Matt B. Burbank, "How Special Should Special Education Be?", School Board Journal, 135:24-25, August, 1957.

[5]Clyde Parker, "A Measured Experiment with Mentally Advanced Children," School Board Journal, 133:23-24, September, 1956.

set up in the Cedar Rapids, Iowa, schools during the school year 1954-55. The framework of the city's experiment with the gifted was designed by a five-man committee appointed by the Cedar Rapids superintendent of schools. The committee had numerous conferences with the city's teachers and board of education members.

Three elementary schools and one junior high school were chosen for the experiment with experimental groups in grades four, five, six, and seven.

After the gifted were identified (an IQ of 125 was used as a minimum), the school psychologist prepared a comprehensive study of individual intelligence, social and emotional adjustments, and academic achievement levels.

Programs for the mentally advanced were planned through joint conferences of the curriculum personnel, the teachers, the director of social education, the director of special services, the school psychologist, and the superintendent of schools.

The program for the experimental gifted children in grades four, five, six, and seven was a curriculum program of enrichment in regular classroom situations.

At the elementary school level, experimental groups for average children were set up in the classrooms where the mentally advanced were to be studied. This action was to see whether adverse situations would arise where the mentally

advanced children were being given special handling. The results of the experiment in the elementary schools indicated that special attention and a special program would mean better achievement by the mentally advanced. Another conclusion reached was that the average youngsters would not be disturbed by the curriculum enrichment for the brighter children but rather would profit from such instruction themselves.

Currently the elementary teachers are actively engaged in program enrichment for gifted and average children. The consultants for the mentally advanced program are working closely with all teachers seeking new ways to further the interests of gifted children in the various subject fields and motivating research in many old and new ideas.

Chattanooga Public Schools[6]

Chattanooga, Tennessee, has a number of different programs underway to take care of her exceptional children, whatever their potentialities, to allow them to develop to the height of their capacities.

Currently more is being done with the retarded and the physically handicapped than with the gifted who get their

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[6]Thelma A. Horacek, "Provisions for Exceptional Children in Chattanooga, Tennessee," The School Executive, 75:70-71, December, 1954.

enrichment within the individual classroom. The city employs a coordinator and special supervisors who work with the teachers of exceptional children.

Cincinnati Public Schools[7]

Cincinnati Public Schools work on the theory that the gifted child's education should be broadened and intensified rather than narrowed and accelerated. Only in rare cases is grade acceleration allowed when aggressiveness, size, or social maturity seems to make it necessary.

Because no special class assignment is made for the gifted in the elementary school, the individual teacher must see that the gifted child is challenged and stimulated.

The Cincinnati Curriculum Committee recommends that:

1. Opportunities be offered for growth in fields in which the gifted are interested.
2. A rich selection of factual and stimulating reading material be offered.
3. Opportunities for leadership should be offered.
4. Opportunities should be provided for experimentation and work with various materials.
5. A high standard of achievement should be set.
6. Responsibilities requiring the exercise of judgment should be delegated to the gifted child.

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[7] New Primary Manual, Cincinnati Public Schools Curriculum Bulletin No. 300 (Cincinnati, Ohio: A School Publication, 1957), p. 46.

Columbus University Elementary School[8]

Ohio's Columbus University Elementary School youngsters are involved as co-planners in a learning program which they understand and help direct. They are provided numerous opportunities for growth in learning the skills and acquiring the attitudes of democratic citizenship besides the fundamentals.

The children are encouraged to be creative in thinking and doing. They are responsible for their own behavior and are allowed to think and act differently as long as their differences do not in any way violate the rights of others.

In group studies in the fields of social studies, science, mathematics, language arts, related arts, and physical training, the children learn the academic skills and facts and are provided with enrichment in varying degrees of intensity and duration.

Teacher-pupil planning begins on the child's first day at school, and he cannot but feel that he is a vital part of his school. Pupils and teachers work together with mutual respect and understanding.

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[8] Group Studies in the Elementary Grades, The University School, Ohio State University (Columbus, Ohio: University Press, 1955), pp. 1-15.

Dade County, Florida, Schools[9]

In 1958 a pilot experiment was initiated in a number of Dade County, Florida, schools, and gifted children were allowed the experience of working with community research scientists. Although most of the gifted youngsters taking part in the program were high school students, some elementary school children have participated.

Largely, the elementary gifted program includes enrichment procedures with some limited acceleration in special cases. In 1952 cross-grouping was initiated. In this method of grouping, the gifted spend half of their school day in regular classrooms studying basic skills and the remainder of the day in special classes for children of high ability. In these special classes the bright apply their basic skills to real life experiences.

Dearborn, Michigan, Public Schools[10]

The schools of Dearborn, Michigan, emphasize the similarities of children rather than their differences. Each

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[9]Jeff West, "Science Gifted Work with Local Scientists," The School Executive, 78:75, September, 1958.

[10]Mark Scully, "Provisions for Exceptional Children in Dearborn, Michigan," The School Executive, 75:67-69, December, 1954.

child is kept in a regular classroom until the point is reached where his differences indicate that his setting is no longer the best place for him.

Dearborn's services to the bright child consist largely of individualized enrichment by classroom teachers. Special field coordinators in science, music, art, and library offer their services to teachers of the gifted. Only in selected cases is acceleration used. The city's classroom teachers emphasize social responsibility to the group and mature evaluations as important understandings for the gifted.

Derry Township School District[11]

Schools in the Derry Township School District in Pennsylvania have programs designed to meet the needs of the more able students which begin in the primary grades. These programs are largely enrichment programs. Children are selected on the basis of ability, achievement, and social and emotional development.

Supplementary work in music, science, and art is offered to the gifted in the lower grades. In the intermediate grades, special work includes creative writing, research, and further studies in social living.

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[11]Eugene Jacques, "Enrichment Through All Grades," The School Executive, 78:81, October, 1958.

Evanston Public Schools[12]

Administrators, supervisors, and teachers of the Evanston, Illinois, public schools have done considerable thinking about provisions for superior children for a number of years. In the high schools and junior high schools of the city, a plan is followed which provides a choice of more than forty electives which allow for program enrichment. No such plan is currently available in the elementary schools, but classroom enrichment is provided through art, music, manual arts, and dramatics.

During the past several years a new curriculum guide has been developed which lists many enrichment methods and techniques for each of the elementary grade levels.

Plans are underway in the city to experiment with groups of equal ability, grade, and chronological age, to test several different plans of enrichment or grouping to determine whether one plan is more productive than the others in developing the gifted. The types of grouping being tested are

1. Heterogeneous with partial segregation.
2. Heterogeneous with enrichment provided in regular classrooms.
3. Homogeneous grouping.

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[12]Vera V. Miller, "The Superior Child Enterprise," School Board Journal, 134:43-45, April, 1957.

Two committees are working with the experimental plan; and when they come up with Evanston's answer to the problem of how to teach the gifted, the city's entire student population of gifted youngsters will benefit from a vigorous new program.

Fresno, California, Unified School District[13]

The right of every child to that type of education which will best suit his own needs and help him become a contributing member of a social group is the basic philosophy underlying education in Fresno City Schools.

Heterogeneous grouping is used, based chiefly on age levels.

Teachers are encouraged to make wide use of the materials in the individual cumulative records in planning a varied and enriched program to meet the individuals' needs. The keynote seems to be enrichment and wide creative activities.

Acceleration is sometimes used after a careful study of scholastic, emotional, social, and physical growth seems to indicate that it is best.

Each teacher has in his possession a handbook of useful

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[13]Betty V. Schappy, "A Survey of the Gifted Child in the United States," (unpublished Master's thesis, New Haven State Teachers College, New Haven, Connecticut, 1956), p. 161.

information, special teaching techniques, and suggested activities for educating the gifted in his classroom.

Hingham Public Schools[14]

The public schools of Hingham, Massachusetts, take care of the gifted within the framework of the regular classroom with a program of enrichment. The program utilizes the abilities and special talents of the gifted children and stresses the development of leadership qualities.

Advanced and intensive training, practice, greater experience in critical thinking, opportunity for creative expression, and the ability to evaluate are made possible by group teaching techniques.

In one of the city's elementary schools a group of fifth and sixth grade youngsters spent considerable time in developing a measurement room. They prepared exhibits and demonstrations of all the different types of measurement which they could find. These exhibits and demonstrations were held in an unoccupied classroom.

In another building a bright sixth grader was released from her regular classroom during certain periods to provide a

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[14]Elizabeth A. Sanborn, "The Hingham Program," The Massachusetts Elementary School Principal, 5:59-60, March, 1956.

story hour for kindergarten children. The girl actually assisted the kindergarten teacher in planning the program and helped with the rehearsing and staging of various plays.

In several of the city classrooms, children with special abilities have prepared exhibits and demonstrations in the field of science for a Science Fair.

Public Schools of Illinois[15]

The public schools of Illinois carry on an extensive program to identify the gifted children at the kindergarten level.

Within the regular elementary classrooms, Illinois's gifted youngsters are given:

1. Greater responsibility.
2. Additional tasks to do.
3. Higher standards of achievement to reach.
4. An enriched program.
5. An opportunity to satisfy natural curiosity.
6. The satisfaction of contributing their special talents to others.

Acceleration is practiced in Illinois's public schools if all-round development of emotional stability, social behavior, and physical adeptness keeps pace with intellectual development.

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[15] The Subject Field Series: Illinois Curriculum Program, Curriculum Bulletin C-one (Chicago, Illinois, Department of Education, 1957), p. 79.

The Malvern School[16]

The Malvern School in Shaker Heights, Ohio, is concentrating much effort and time in identifying and teaching the gifted.

The school is justly proud of its unusually large library which is doing a tremendous job of enrichment. Fortunately for the school in general and the gifted in particular, the library has a substantial fund to supplement the usual textbook orders. Talented youngsters, encouraged by a librarian who knows how to handle them, spend many profitable hours in the library.

Extra work is carried on by the talented in science. Among the many things they do are the arranging of science cases, planning exhibits and setting them up, giving demonstrations, and taking active parts in the school's science club.

Groups of youngsters are encouraged to go on trips to various places of interest, and resource specialists in the community bring additional enrichment into the classrooms.

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[16]Florence Gabriel, "Challenging the Superior Child," National Elementary Principal, 32:224-228, September, 1952.

Mason City Public Schools[17]

The public schools of Mason City, Iowa, with a school population of about 6000 students, keep their exceptional children in the regular classrooms. This group, which includes the gifted children, is taken care of by a special agency working through the classroom teachers. Especially trained teachers are available who serve the regular teacher through program enrichment or aid the principal in the task of setting up classes or activities to challenge the gifted.

Philadelphia School System[18]

In the Philadelphia School System there are no two schools that have identical programs for the gifted. The principals are encouraged to experiment to determine the best plan for their particular schools. In their planning, the principals can obtain special assistance from the school system's central office.

Most of the elementary schools use programs of enrichment to provide for the gifted and talented. Each school has

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[17]Lawrence H. Shapoiser, "Provisions for Exceptional Children in Mason City, Iowa," The School Executive, 75:65-66, December, 1954.

[18]Russell M. Leonard, "City-Wide Program for the Gifted," The School Executive, 78:70-71, September, 1958.

organized faculty committees to study and develop procedures for locating and aiding the gifted. Careful grouping is carried on within each classroom to provide many opportunities for enrichment in depth. One school principal teaches Spanish to superior sixth-grade pupils; in another elementary school, sixth-graders of superior intellect are taught algebra by the principal.

In some of the schools, special adjustment teachers are assigned to work with talented students. Local resource people are tapped to enrich many of the classrooms; local engineers are offering their services to help youngsters with special interests in science.

Only in the larger elementary schools of Philadelphia is there any grouping of the gifted outside the regular classroom. In some of the schools special groups meet on the basis of reading and arithmetic level rather than on grade level. One of Philadelphia's elementary schools has been experimenting with ungraded classrooms for the academically talented.

Salem, Oregon, Public Schools[19]

The Salem Public Schools furnish the gifted with the

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[19] An Outline of the Curriculum: Grades One to Six, Salem Public Schools (Salem, Oregon: A School Publication, 1957), pp. 41-45.

opportunity to express individual interests and potentialities through the use of a variety of materials and projects. In art, for example, techniques used are in relation to the maturational level of the child in order to stimulate experimentation with various materials and creative activities.

The Instructional Materials Center, at the city's Administration Building, houses a wealth of written material for all levels which may be utilized by the teachers. The Administration Building also is the city's center for audio-visual materials, films, filmstrips, slides, recordings, transcriptions, tapes, and exhibits which the teachers of Salem may use for classroom enrichment.

Specialists in the various subject areas are available to suggest ideas on enrichment to the classroom teachers.

San Diego City Schools[20]

Capable youngsters in the San Diego City Schools are being offered two closely related programs:

1. The Program of Honor Courses and
2. The Experimental Program for the Gifted.

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[20]George V. Hall, "Programs for the Benefit of Able Students," Education, 79:28-33, September, 1958.

The Experimental Program for the Gifted had its inception some ten years ago with excellent leadership provided by the Director of the Guidance Department, Dr. Richmond Barbour. In the latter part of the forties the guidance department became concerned with the large number of children with problems referred to them who were discovered to have high intelligence. Aware that something had to be done for these gifted delinquents, the Board of Education authorized, in 1951, the San Diego Experimental Program for the Gifted. Today with an enrollment of more than 84,000 students, San Diego has identified more than 936 gifted children, or more than one per cent of the total enrollment.

The program is primarily one of enrichment with the pupils continuing their instruction in regular classes. The district provides three teacher consultants for the elementary schools and five more for the secondary schools. These teacher consultants work with the teachers of the gifted. They provide materials and ideas for enrichment purposes. Segregation of the gifted has been avoided except for a small number of elementary students who are particularly in need of individual attention and special help in personal adjustment.

The Program of Honors Courses is the second, and a unique, program offered in San Diego. It has been in operation for three years, and teachers in the area believe it has contributed materially to the solution of the upper-school gifted

child problem. Because it is a program for the secondary schools, the writers will forego any discussion of it in this study.

San Francisco Public Schools[21]

San Francisco began a controlled experiment to study types of classroom organization for the gifted in the elementary grades about twenty years ago. The present program does the following:

1. Identifies the bright through a continuous program of group and individual tests.
2. Calls the attention of parents and teachers to the nature of a child's superiority.
3. Acquaints the teachers and administrators with the characteristics and needs of gifted children via workshops, in-service programs, reports, and bulletins.
4. Assists the school personnel in adjusting the school program to meet the needs of the gifted through curriculum guides, counseling, library aids, instructional materials, and additional enrichment devices.
5. Enlists community interest in the needs of the bright children and arranges for maximum utilization of community resources.

Pupils who are consistently in the top 2 per cent of the school enrollment are referred to the assistant principal for enrichment programs.

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[21]Edith J. Baurlein, "Challenging Talented Children," The Delta Kappa Gamma, 26:88, Winter, 1958.

Springfield, Missouri, Public Schools[22]

The Springfield Public Schools recognize as a primary aim the promotion of individual development so that maximum potentialities may be realized. Every child is taught so that his abilities are discovered and developed to the optimum degree. Within the regular classrooms, individual and group problems take care of the various levels found within a typical class.

The children are helped to develop group belongingness and group responsibility as well as individual initiative and individual responsibility.

Teachers are encouraged to utilize materials, films, filmstrips, and other visual aids for greatest possible class enrichment.

Tulsa Public Schools[23]

The schools of Tulsa, Oklahoma, recognize the special needs of their gifted and talented and are providing for them. Children with unusual giftedness are identified early

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[22] Instructional Guidelines, Springfield Public Schools, Curriculum Bulletin No. 8 (Springfield, Missouri: A School Publication, 1958), p. 3.

[23] A. V. Ogle, "How Tulsa Teaches the Grades," School Board Journal, 136:25, April, 1958.

and guided to outstanding achievement in their special fields through specialized instruction by teachers trained in the six special subject areas.

In those subjects which are taught in the individual homerooms, the gifted are given extra and more challenging assignments. In the primary grade homerooms the children are usually divided into three reading groups. The reading material which is used for each group is selected in terms of difficulty.

In the middle and upper grades, grouping is also utilized, with membership in each group depending on the instructional job to be done.

Tulsa's comprehensive achievement testing program shows that her boys and girls equal or surpass national norms in most of the basic subjects and are experiencing exceptional growth in the enrichment of special subject areas.

Wilmington, Delaware, Public Schools[24]

Although Wilmington school officials feel that they are already doing much for the gifted youngsters, they feel that there is still much more that they can do.

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[24] An Introduction to the Education of the Able Student in Wilmington Public Schools, Instructional Bulletin No. 1 (Wilmington, Delaware: City Schools Publication, 1958), p. 4.

The principal, in each of the city schools, takes the initiative in developing and overseeing the program for the superior children. In many parts of the system flexible curricula permit pupils to progress at differentiated rates based on subject standards on rigid grade standards.

The city employs a number of special teachers in music, art, physical education, and library services who are available to assist the classroom teachers with enrichment ideas.

Wilmington's in-service educational program has been utilized frequently to aid the various schools in meeting the special needs of superior children.

In May of 1956, a three-year project to explore and evaluate procedures for more adequately meeting the needs of children of superior ability was started. Under the official title of the Project for Superior Pupils and with a substantial grant from a local foundation, the study is primarily a curriculum project. While the study is aimed at improving the opportunities for superior pupils, it is also opening new instructional ideas to all of the city's pupils.

The project has been helped considerably by the assistance of authorities in the field of giftedness, the more prominent being Dr. Paul Witty and Dr. Robert C. Wilson.

The program's working committee rejected the placement of superior pupils in special schools or in exclusive classes on

a full-time basis within regular schools. They did not, however, eliminate special educational provisions for superior pupils which do not require exclusive school programs on a full-time basis or special schools.

Enrichment within the regular teaching areas seemed to be the best answer. Limited acceleration and summer educational experiences are also being tried.

XI. ACCELERATION PROGRAMS FOR THE GIFTED

Acceleration has been defined as a procedure which allows a student to complete his education a year or more earlier than the norm for his age. The procedures most common are skipping a grade, early admission to kindergarten classes, and rapid progress resulting in earlier admission to college.

Many who favor acceleration for the bright students feel that both society and the individual stand to gain from an increased tempo in the educational process. Its opponents are frequently people who were themselves accelerated and feel that such acceleration placed them at a disadvantage with older students.

Several research studies of importance seemed to build a case for acceleration. Terman, Keys, and Pressey arrived at

the conclusion that if there are any disadvantages derived from acceleration they are usually temporary and would be fewer in number should more of our bright advance more rapidly through school.

The traditional vehicle for acceleration is "skipping." The dangers and advantages of skipping are not too difficult to discern. The wise administrator will study a case for skipping very carefully before he gives his consent.

Dangers in the practice of skipping may include the following:

1. The subject may be physically immature.
2. The subject may be socially immature.
3. The subject may be excluded from nonacademic activities.
4. The subject may find that he cannot hold up his own in the academic work because he has skipped processes in the fundamentals which are necessary for understanding.

Advantages advanced in favor of skipping are as clear-cut. Exponents of skipping believe that the gifted child:

1. Profits from a larger number of associates who share common interests.
2. Profits from keener intellectual competition.
3. Profits from ability to start earning earlier.
4. Is provided with more creative years.

The writers believe that if acceleration is to be used, it should not be the type that results in omissions of necessary

parts of the curriculum. The program known by some educators as the Rapid Process allows the gifted to cover the whole curriculum in less than normal time.

A third possible method of acceleration involves summer programs. This method is more common in the secondary field. Summer classes for grade school youngsters are more likely to be enrichment opportunity classes.

The following accounts show how a number of school systems in this country are using the acceleration methods to provide for the education of the gifted.

Catholic Diocese Schools of Cleveland[25]

When Reverend Clarence Elwell became Superintendent of Schools for the Catholic Diocese of Cleveland in 1946, a pilot plan of acceleration was inaugurated in the elementary schools. On the elementary level, the plan called for the retention of the eight-year elementary school, but with provision for the gifted children to complete the work in seven or even six years.

Two schools consented to pilot the project and, after two years, the parents and teachers of the gifted acknowledged

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[25] Clarence Elwell, "Acceleration of the Gifted," The Gifted Child, 2:21-23, Spring, 1958.

that the harmful effects predicted by many had not occurred. With the success of the pilot schools, the entire system of 90,000 elementary pupils adopted the plan and pupils have been accelerated in the system's 180 schools ever since. In 1957, for instance, 477 pupils were thus accelerated.

In the original plan the elementary curriculum's essentials were allocated to grades one, two, three, five, six, and eight, leaving grades four and seven as "skip" grades for the gifted children. The use of some enrichment in grades one, two, three, five, six, and eight, and the use of summer sessions have been found in many cases to be equally effective in preparation for the pupils to assist them in skipping a grade.

The one subject that caused concern when a child skipped grade four was arithmetic. Experience has proved that a summer course easily takes care of that particular problem.

Danvers Public Schools

In Danvers, Massachusetts, definite progress has been made toward the goal of better preparation for college. In the three elementary systems, team learning has been instituted in all subjects to accelerate the younger pupils so they will be better prepared for junior and senior high school work.

Latin is currently being taught in the second semester of the eighth grade, but plans are being made to teach it in

grade seven in the near future. The accelerated groups also begin algebra in the seventh year. It should be emphasized that this is only for the top people.

In addition, a plan of enrichment which employs pupil specialties is utilized. Pupil specialties emphasize individual accomplishment and specialization in some aspect of school work. The pupil is encouraged to become an expert.

East Meadow Public Schools[26]

East Meadow, New Jersey, has been conducting systematic group testing to identify its youngsters with superior ability. In the elementary grades the gifted may be considered for special acceleration if:

1. All-round achievement test results are at least two grades above the child's grade placement.
2. An individual mental test rating indicates an IQ of at least 130.
3. Social, emotional, and physical development are such as to indicate a probable satisfactory adjustment.

Acceleration is allowed only after principal, teacher, parents, and psychologist concur on the wisdom of the move. The school system does not allow a child to skip more than one grade during his school career. When a child is accelerated,

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[26]Paul E. Blackwood, "Helping the Gifted," American School Board Journal, 135:27, September, 1957.

he is put into the hands of an experienced teacher who will help him make the necessary adjustments.

Lexington, Kentucky, Public Schools[27]

Lexington's year-round school which had its inception in 1948 was not specifically meant to assist the bright youngsters in Lexington's City Schools. However, the plan which proved so successful that it expanded year by year, did prove to be fruitful for the exceptionally gifted children.

The summer months provide time to take the especially gifted child at a more rapid rate along more fascinating language paths such as storytelling, dramatics, and poetry. The fields in which the child can enrich his own experience beyond what is possible in the regular session are numerous and varied. Outstanding work has been done in the fields of music, art, and crafts. Numerous trips to local resource points enrich the child's knowledge of his surroundings.

Riverside, California, Elementary Schools[28]

Riverside, California, makes good use of its school

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[27]Dorothy Miles, "Lexington's Year-Round School," American School Board Journal, 124:27-28, March, 1952.

[28]Bruce Miller, "Summer Use of School Facilities," The School Executive, 75:63-64, July, 1955.

properties during the summer months. Programs for gifted children as well as regular sessions, remedial reading programs, and recreation activities take place during July and August.

In this city of 66,000 people, a number of "Opportunity Classes" composed of boys and girls whose IQs exceed 120 have been formed. They are entirely voluntary. Among areas encouraged are foreign languages, art, creative writing, science, and sports. Creativity is emphasized. Scheduling of classes depends upon attention spans, eagerness to explore new fields, and ability of the youngsters to think for themselves.

Roanoke, Virginia; Denver, Colorado; and Grand Island, Nebraska, are other cities which have offered similar summer programs.

Summer Experiment at NYTC at Geneseo, New York[29]

The New York Teachers College at Geneseo, New York, has long been concerned with programs for exceptional children. During the summer session of 1958, the college sponsored a five-week science class for bright and gifted youngsters from eleven to fifteen years of age. The class consisted of

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[29] William Cotton and June Moyer, "Gifted Children Like Science," New York State Education, 46:94-95, November, 1958.

twenty-three youngsters of 130 to 160 IQ from fourteen Genesee Valley schools.

The selection of the participants rested primarily on two points: an individual IQ test and recommendation by school administrators. A teacher of bright and gifted children at Hershey, Pennsylvania, Mrs. June Moyer, devoted full time to the guidance of the special summer-session class.

A program was established, basically one of enrichment and not designed to affect the regular science programs to which the youngsters would return in the fall. It was a program of acceleration in the sense that it hoped to accelerate the children's interest in science.

Three members of the science department acted as resource people for the class and the college laboratories and library were at the disposal of the group. The region's industrial and public organizations offered specific help in such fields as optics, electronics, photography, atomic energy, and rocketry. Many of the organizations opened their facilities for closely-guided, day-long tours. Other organizations sent specialists to the campus to work with the youngsters.

The class was in session only in the mornings except when full-day trips were scheduled. Individual research included studies of bacteria, viruses, pond life, atomic energy, and spectroscopy. The entire group carried on exploratory studies

of the principles of photography, geology, radio, and television. Despite the short hours of study the youngsters were able to complete many of their projects and maintain high interest throughout.

From the first summer of experimentation, the college arrived at several important conclusions. Some bright and gifted youngsters are deeply interested in science and are quite willing to forego some of their summer recreation time in favor of a summer study program. A summer program of study may be a way of caring for the needs of bright and gifted children outside the usual means of enrichment and acceleration. Plans to continue the summer work are underway.

III. SEGREGATION AND SPECIAL CLASS PROGRAMS FOR THE GIFTED

Teachers who have had the experience of teaching classes of bright children are, more frequently than not, enthusiastic about the relative ease of maintaining discipline in these classes. Vastly different heterogeneous elements could well contribute to a behavior problem.

Our brighter elements working together, stimulating each other, are more likely to achieve greater intellectual activity than is common in the regular classroom. They are able to carry on research, take and give criticism, and exchange

opinions and ideas in a way not possible in the regular classroom.

Critics of segregation and special classes cite dangers which should certainly be considered by schools contemplating such programs for the gifted. The writers are of the opinion that they are dangers which could be controlled by care and proper safeguards.

Many of the more vocal opponents of special classes and segregation see these methods as undemocratic, unAmerican. For these people the writers ask one question: "Is it democratic to hold a bright child to mediocre accomplishment and stifle his greater abilities?" A program which allows the gifted to share non-academic experiences with those of lesser intellect might be a partial answer to the objection of an aristocracy.

Those who complain that conceit is an objection to special grouping should ponder this question: "Are we not more likely to have conceit and snobbery in a heterogeneous setting where abilities may be vastly different?"

Never should the dollars and cents consideration impede progress in assistance to the gifted. Extra expense for special classes is not always a necessity, however. The writers feel if extra expense is necessary it is an investment in America's future. The intellect is one of our greatest

resources. Money spent in identifying the gifted and providing good programs for them can never be considered misspent.

A survey of some of our segregation and special class programs follows.

Baltimore Public Schools[30]

Where possible and when the numbers warrant it, the exceptionally bright children in the Baltimore Elementary Schools are placed in the same classes so that they will be properly challenged by working with those of similar ability.

Enrichment programs give superior youngsters chances for more searching types of investigation, and reference and research work appropriate for their particular levels. Programs carried on enable the gifted to develop their abilities to generalize and organize, analyse, and capitalize on opportunities for independent thoughts and actions.

Bedford, Ohio, Public Schools[31]

The city of Bedford, Ohio, inaugurated a guidance program for the gifted in September of 1950. The program resulted

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[30] Guide to Elementary Education, Baltimore Public Schools (Baltimore, Maryland: Bureau of Publications, 1955), p. 27-30.

[31] Paul Holcomb, "A Program for the Gifted," Exceptional Children, 19:201, February, 1953.

from a five-year study by the psychologist and other staff members.

The children taking part in the program are selected in several different ways. Some are discovered through group and individual testing procedures. Others are recommended by parents, teachers, and psychologists. Many are chosen because of outstanding classroom work.

Every child who is referred for placement in the program is given the Weschler-Bellevue Intelligence Scale or the Stanford-Binet. An IQ of 150 has been adopted as the criterion for placement. Some pupils have been admitted, however, who have indicated remarkable ability in one area.

With parental approval, selected pupils are scheduled to meet with the coordinator of special education for gifted children one period each week. The coordinator interviews each child periodically, interviews parents to help them understand their bright youngsters, and teaches individuals or groups as the need arises. He also coordinates programs for the gifted with regular courses of study.

Pupils taking part in the program work on a varied list of projects. They have shown interest in astronomy, electricity, chemistry, music, geology, foreign languages, and prehistoric lore.

Parents, children, and teachers appear to be enthusiastic with the program's results.

The Brentwood Elementary School[32]

The Brentwood Elementary School in Austin, Texas, has demonstrated what one school, with its own initiative and its own resources, can do for gifted children. The six-grade school has a pupil enrollment of 900 in an average-income neighborhood.

The bright in the fifth and sixth grades with IQs above 120 are placed in special classes one period each week. The class currently contains other youngsters who indicate special talents.

Each class is small with from eleven to fifteen children in each. A wide range of interests and resources is unearthed in each group. Many interesting discussions result. Original stories and verse are written, field trips are made to places of interest, arithmetical puzzles and shortcuts are learned, and a new language, Spanish, is part of the program.

No special problems arise from these special groups because they are treated on the same basis as a music class.

Brockton, Massachusetts, Schools[33]

Brockton's gifted youngsters are being taken care of by

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[32]Richard D. Bowles, "Special Classes for Our Gifted," The School Executive, 75:56-57, April, 1956.

[33]Paul E. Blackwood, "Helping the Gifted," American School Board Journal, 137:27, October, 1958.

a program developed to achieve seven major objectives:

1. To help the superior youngsters develop their maximum potentialities.
2. To bring out and develop qualities of leadership.
3. To stimulate creative activities by developing group enterprise.
4. To develop teaching techniques specifically adapted to the highly endowed.
5. To help the gifted avoid emotional pitfalls.
6. To develop a closer bond between home and school through home projects.
7. To maintain and improve mental health by the Special Advisory Service.

Brockton initiated a program for the gifted as early as 1928 whereby the superior youngsters in the city schools were placed in separate classes with others of comparable ability. The program consists of two classes in the B. B. Russell Elementary School which can accommodate about forty youngsters. The two classes are a fourth-fifth combination and a fifth-sixth combination. There is complete segregation of the two groups although the youngsters are allowed to take part in the general activities of the school. The children in the two classes appear to mix well socially with the other children in the school.

The two classes are run independently by two master teachers who utilize procedures to meet the individual and group needs of the pupils. Although their curriculum closely

parallels the work done by other fourth, fifth, and sixth grade youngsters, it is not formalized and is more extensive and involved in coverage. Considerable emphasis is placed on research and reading.

The programs in both of the special classes is overseen by the Director of Elementary and Special Education. No special or new techniques are used in either classroom. The gifted get enrichment which is dependent upon their needs.

Cleveland Public Schools[34]

For more than thirty years Cleveland has been working on a program for childrenof superior ability. Known as the Major Work Program, this plan's major characteristic is enrichment in special classes.

The bright children are grouped together in classes but are not rushed through the subject matter at a more rapid rate. Instead, they are allowed to penetrate more deeply into material taught at the same grade level than the average youngster would be able to do.

Although concerned with the development of knowledge and skills, the plan has other aims as well. Some of them are:

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[34] Walter Barbe and Dorothy Norris, "Special Classes for Gifted Children in Cleveland," Exceptional Children, 21:55-57, November, 1954.

1. Developing critical thinking.

2. Developing alertness.

3. Increasing the span of knowledges and skills for the student.

4. Developing creative power and initiative.

5. Developing ability to work independently.

6. Developing ability to execute and judge work.

7. Developing leadership.

8. Developing greater ability to share in undertakings.

Twenty different elementary schools in Cleveland have the Major Work Classes. Some of the schools have several of the classes while others have none. Children who attend schools which do not have the classes are allowed to transfer to schools having such classes.

Each of the elementary school Major Work Classes includes three grades. The lowest level at which combinations begin is the latter half of the first grade. The combinations vary; but second, third, and fourth or fourth, fifth, sixth are the more frequent combinations. An effort is made to keep the size of the classes to a minimum, but heavy elementary school enrollment means classes that are often up to thirty-five pupils.

In no case is any child double promoted or accelerated in Cleveland's schools. Those who are able to grasp materials rapidly enough to progress at a faster tempo are, instead,

candidates for membership in the Major Work Classes.

Every child in the public schools is given a group of intelligence tests, and the child who receives an IQ rating of 125 or better is recommended for the Major Work Program. With parental permission the child is enrolled in a class. Usually the enrollment in the program occurs around the third grade, but 75 per cent of the candidates are identified before they reach their third school year.

The program's subject content is only slightly different from that of regular classes. French is taught in the grade schools as well as the usual elementary subjects.

The differences in elementary school procedures mark the greatest differences between the Major Work Plan and the ordinary classroom plan. Parents who visit the Major Work Classes have noted these differences:

1. The students take care of their own disciplinary problems.
2. The children do not raise their hands to speak.
3. The students make the decision when to start another work unit.
4. The children present well-prepared talks.
5. French begins in the primary grades.
6. Every youngster shows an eagerness to learn.

Teachers in the classes are not usually the leaders, but are active participants in conducting the classes. There is

usually a group leader in charge during the presentation of a unit, and he is the one responsible for maintaining discipline. The responsibility for ending a study and discussion lies with the group and its leader. It is necessary that the children early learn to be objective about the value of discussion to the entire group.

Even on the primary level the children do research and present their material to their classes in the form of talks. Every youngster is responsible for a twenty-minute research talk once a semester. The topic and the date due are the child's responsibility entirely.

The study of French was made part of the curriculum because of the enthusiasm and ability of the elementary youngsters for a foreign language. Although German and Spanish have been tried, they have not been accepted with so much enthusiasm. Elementary youngsters get approximately thirty minutes of French each day. The French instructors utilize dramatizations, games, and every possible device to increase the spoken vocabulary. French grammar as such is not taught on the elementary level.

Strangers to the program who ask whether the gifted youngsters are mastering essential subject matter are told that achievement testing indicates that they are more than adequately mastering their grade level material and are being stimulated to even greater participation.

Daniel Webster School[35]

An experimental class in creativity has been offered in the upper grades of the Daniel Webster School in Stockton, California, for the past two years.

The children are selected from their test records and on teacher recommendations. These gifted children attend an enrichment period for three-quarters of an hour each day and spend the rest of their time in regular classrooms.

During their special classes, the gifted have experiences in science, mathematics, music, debating, choral reading, and creative music.

Hunter College Elementary School[36]

In 1941 the Hunter College Elementary School in New York City was set up as an experiment for the education of the gifted. Since that time the school, which has support of numerous Americans who believe that it is democratic to provide for the gifted, has made tremendous contributions to our knowledge about bright youngsters. The school is not merely a

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[35]Claire Sprague, "Individual Projects in Creative Arithmetic," The Instructor, 68:34, September, 1958.

[36]Gertrude H. Hildreth, Educating Gifted Children (New York: Harper and Brothers, 1952), p. 268.

laboratory but is a training center for teachers of the gifted, a center of all types of information about the gifted, and a real source of assistance to other institutions which want to aid their own gifted children.

In 1950 the median IQ score for the entire school of 227 boys and 223 girls was 154. The youngsters were enrolled in seventeen classes and their ages ranged from three to eleven. At the beginning an attempt was made to equalize the number of boys and girls but it resulted in a distinct difference in the IQ scores of the various age groups. A nursery school group meeting the usual qualifications of IQ was started in 1951.

Facilities which extend far beyond the average are available for the children as educational resources, and the teachers represent a superior group. The school has the use of many of Hunter College's facilities, and the New York location means that there are present many cultural advantages for educating the gifted.

Staff members at the school participated in developing the curriculum and program which are lacking in many of the shortcomings of traditional education programs. Emphasis is on the unified approach to subject matter with curriculum enrichment achieved in many different ways. The program includes all the recognized content and skill areas as well as arts and crafts.

Class organization in the various classrooms is largely the responsibility of the individual teachers. An informal, workshop atmosphere prevails but with plenty of evidence that the children have been trained in self-discipline and self-responsibility.

Social studies, science, arts and crafts, health, literature, and physical training all have their place in the school's curriculum. Pupil interest and learning efficiency are increased and improved by the utilization of novel methods of instruction and newer instructional resources and equipment.

There are numerous school-wide activities which include participation in the student council, working on school publications, participation in school assemblies, preparing and enjoying school socials, sharing in school sports, and taking active parts in club activities.

Studies of the emotional and social adjustments of the Hunter School pupils have shown them to be well-adjusted on the whole, with wholesome interests and satisfactory behavior.

Kentucky's Public Schools[37]

In addition to classroom enrichment many of Kentucky's

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[37] Instructional Services, Curriculum Circular No. 3 (Frankfort, Kentucky: Department of Education Publication, 1958), pp. 3-6.

elementary and secondary schools offer optional subjects to the interested and the gifted. These special classes in the elementary schools include handwriting, literature, social science, geography, elementary science, health, music, and art.

Malden, Massachusetts, Public Schools[38]

The city of Malden has as its educational goal the education of all the children. The gifted in city schools are segregated and enriched programs are used to bring the gifted up to their mental age.

The Malden Program, or the Malden Major Work Classes as it is better known, had its inception in 1954. Third grade children throughout the city were tested and chosen for special fourth grade classes. In 1955, a special fifth grade class was started for the graduating fourth grade class. In September of 1956 a special sixth grade class was inaugurated which meant that there were three special classes in operation.

The program is under the direction of an elementary school principal and the superintendent of schools.

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[38]Frank H. Mitchell and Hugh M. Russell, "A Survey of Eight Successful Enrichment Programs," (unpublished Master's thesis, School of Education, Boston University, Boston, 1956), p. 12.

There is no acceleration utilized; enrichment is used exclusively in the program. Regular courses of study are followed until skills have been mastered. Numerous projects and activities are undertaken by the Major Work Classes. Imaginary tours and real trips to places of local interest are utilized. Newspapers are printed and radio programs are featured. Audio-visual aids are put to wide use.

Supervisors of Malden's special classes are always looking for new ways of enrichment.

New York City Public Schools[39]

Provisions have been made for gifted elementary school children throughout the city of New York. In a number of schools gifted youngsters are enrolled in regular classrooms and get enrichment through activity programs. Other schools have special rapid-advancement classes within the schools. In the last few years more than fifty classes of the gifted have been instituted in the city's elementary schools.

It might be well to add, at this point, that New York City is the headquarters of the A. A. G. C. (the American Association for Gifted Children). This organization, which has members in all parts of the United States, gives advice to

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[39] Gertrude H. Hildreth, Educating Gifted Children, (New York: Harper and Brothers, 1952), p. 251.

schools concerning the education of the gifted and also sponsors projects in harmony with its purposes.

Niagara Public Schools[40]

The Niagara Public School System of New York set up two special fifth and sixth grade classes in 1954. The youngsters in the classes have IQs of 140 and higher. They must be definitely superior and at least two grades ahead of the normal class. Some of the youngsters included were disturbed children who were performing far below their potential.

The gifted children have regular curricular work for half the school day and a special program in the afternoon. They learn conversational French and Spanish. Independent research is encouraged in various fields.

Oakland, California, Schools[41]

Every elementary school in Oakland utilizes the Stanford-Binet test to identify the gifted in city classrooms. Special classes for gifted children consist of interest groups within the school in such subjects as choral music, folk dancing,

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[40] The Academically Gifted, Potsdam Guidance Conference Bulletin (Potsdam, New York: The Conference Publication, 1954).

[41] Edith J. Baurlein, "Challenging Talented Children," The Delta Kappa Gamma, 26:102, Winter, 1958.

orchestra, and art. Special grouping takes place in connection with individual differences in the various skill subjects.

Extra activities in literature, creative writing, and verse choirs are offered to the better-than-average. In each of the elementary classrooms enrichment is offered through clubs and service organizations.

Gifted children are allowed to come to school early or stay after school to work on special projects.

Oneida County Supervisory District #1

One of the writers had the privilege of spending a day discussing programs and identification of the gifted with Mrs. Madeline Coutant, President of the Metropolitan Association for the Study of the Gifted and head of the Oneida County Supervisory District #1, New York, Gifted Program. A charming, vivacious woman, she is so busy working for and with the gifted that she cannot find the time to publish the results of her endeavors. Let us hope that she finds the time in the future because her knowledge of child giftedness must be shared with all who recognize that there is a giftedness problem.

Oneida County sponsors both summer and winter programs. Both programs, according to Mrs. Coutant, are tremendous successes.

In one school, sixth grade children who have special abilities in science, art, mathematics, and creative writing

are assigned to a special teacher who is especially interested in each of the fields. The rest of the pupils do remedial work with the remaining sixth grade teachers during this period. One group meets as an astronomy club on Saturday mornings.

Fourth grade pupils in another school are taught Spanish by FM radio. Lesson plans are provided to classroom teachers in advance. Later this year, linguistically capable pupils will be selected and will continue listening under the supervision of a Spanish-speaking teacher while the remainder of the classes use the time for remedial work.

Mrs. Coutant speaks very highly of the Iowa Test of Basic Skills which is used in a number of Oneida County Supervisory District #1 schools. When pupils reach grade three they are given the test, and results obtained are used to classify pupils as (1) very superior in all fields tested, (2) superior in all fields tested, (3) very superior in vocabulary, (4) in reading comprehension, (5) in language skills, (6) in work-study skills, (7) in arithmetic skills, (8) inferior skills relative to ability as tested by the California Mental Maturity Test (underachievers).

Pupils are tested again in subsequent grades as a further check.

Winter programs for gifted children on the secondary level include work in electronics, advanced mathematics, special art

instruction, foreign language instruction, and humanities studies.

Pittsburgh's Colfax School[42]

In Pittsburgh's Colfax School a partial segregation plan is utilized to provide better living and working conditions for its gifted children. The plan makes it possible for the gifted to work with their intellectual peers, encourages the pupils to work to capacity, and provides the greatest possible opportunity for group acceptance of the individual child. In addition, the plan enables the school to develop special methods and materials best suited to the teaching of the gifted.

The entire elementary school from the third grade upward works on a platoon plan. The academic, lower-grade teachers of the morning session become the special teachers in the afternoon session. All the basic subjects such as language arts come in the morning, and enriched courses such as music and rhythms occur in the afternoon session. The mentally superior are segregated in those basic morning classes in which they need the greatest challenge.

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[42] Hedwig O. Pregler, "Adjustment Through Partial Segregation," National Elementary Principal, 32:243-246, September, 1952.

The upper grade children in the school have their basic subjects either in the first or second session. Their special subjects--music, science, physical education, and art--come in the other session. The bright youngsters are removed from their groups during the basic subject periods and sent to a workshop room where they have the opportunity to work to capacity. Although segregated from their usual grouping during these periods, they are still acquiring the same fundamental knowledge as the other children but on a higher level of understanding. During these periods much critical thinking and cooperative endeavor is achieved. The special interest of each individual is explored and there is much inter-stimulation.

Exponents of the Colfax Plan see it as meeting an important need--the need to be challenged by intellectual peers.

Portland, Oregon, Schools[43]

Portland's program, officially known as the "Cooperative Program for Students of Exceptional Endowment," was started in 1952 as an experimental study on both the elementary and secondary levels.

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[43] Paul E. Blackwood, "Helping the Gifted," American School Board Journal, 137:25-27, September, 1958.

On the elementary level, ten Portland schools were selected to participate in the program, and in 1953 four additional elementary schools were added to the group. A major concern in the program was the place of the normal classroom. Earliest efforts of the program consisted of assisting all classroom instructors to provide individual instruction varying with the ability of each child.

Each of the elementary schools established a number of special interest classes. Children with common interests and abilities were grouped together for a period of from two to five hours each week. During these special sessions the youngsters carried out studies, increased their skills, and wrote and debated in a way not possible in regular classrooms.

Quincy Public Schools[44]

A recent trend in elementary and secondary education in Quincy, Massachusetts, has been the advent of special classes for students of more than average ability. The city's high school program is similar to programs already in practice in Newton and Brookline schools.

The program in Quincy begins in the lower elementary grades. Those children who indicate better than average ability are

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[44] News item in the Boston Traveler, December 9, 1958.

given the opportunity to take special field trips to collect additional information for their class work. They meet at four different places for specialized instruction.

Increased emphasis on advanced education continues through junior and senior high school classes.

South Bend, Indiana, Schools[45]

South Bend schools inaugurated a program to meet the needs of and challenge the gifted in the fall of 1956. The program was the direct result of an in-service study group which had met to study and investigate available data on the problem.

A battery of tests was given to all pupils in the third, sixth, and eighth grades. All pupils with IQs of 125 or better were considered for participation in the gifted program. With permission from parents and classroom teachers, the bright were placed in special classes.

The Talented Child Program in South Bend schools is one of enrichment rather than acceleration. Pupils are given all the work they are able to handle. They are not allowed to go beyond what pupils of their age are expected to learn, but they are expected to learn those things more thoroughly and go

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[45]Edith J. Baurlein, "Challenging Talented Children," The Delta Kappa Gamma, 26:25-29, Winter, 1958.

much deeper in knowledge of the subject and its relation to other subjects.

Creativity is encouraged through intensive reading, writing, research, reports, and field trips. Special stress is placed upon critical thinking. Wider interests are encouraged.

One of the city's elementary schools offers German as a foreign language. Other schools offer French at fifth and sixth grade levels.

Tripp City, Ohio, Public Schools[46]

In 1947, Tripp City Schools, dissatisfied with attempts at heterogeneous grouping, changed to a plan whereby children in city schools are grouped by rooms according to their achievement ability.

School officials and the majority of parents feel that the plan has been successful. In every section of a grade pupils are challenged but are seldom frustrated. An abundance of instructional material suitable to meet the different needs and abilities enrich their program.

The city has an average enrollment of about 150 pupils per grade. Each grade is divided into five sections. In 1953

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[46] Harold W. Metzley, "Meeting Individual Differences," American School Board Journal, 137:56, November, 1958.

an Ungraded Primary Department was organized. The plan provides for continuous progress with no skipping or repeating of any part of the program. No child is held back by youngsters slower than himself.

To keep the gifted child challenged, program enrichment is carried on.

University City Public Schools[47]

University City, Missouri, like many residential suburbs, has a high proportion of gifted children. The city's program for these gifted children was organized in 1952 with fifty gifted pupils in six different elementary schools. The next year the program reached an enrollment of 197 children. In 1953, 275 pupils in eight elementary schools received special instruction from two full-time teachers in thirty different classrooms.

The city schools utilize the Stanford-Binet test to locate their gifted children. The minimum IQ for inclusion in the gifted program is usually 140.

The gifted children meet with their enrichment teacher in small groups of eight to ten for periods of forty to fifty minutes twice each week. The meetings are held during regular

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[47] James M. Dunlap, "Gifted Children in an Enriched Program," Exceptional Children, 21:135-137, January, 1955.

school hours. Usually the groups explore those topics which are not generally included in the prescribed curriculum. The topics emphasize science, the social studies, and language.

The children usually choose their own topics. Reading, discussions, written and oral reports, lectures by outside experts, field trips, and experiments are utilized class procedures.

In addition to their usual studies, sixth-grade enrichment pupils plan and carry out projects for the week-long school camp program which all the sixth graders attend each spring.

Typing has been introduced into some of the elementary schools as an additional means of communication enrichment.

Although the activities undertaken by the gifted children are themselves of great importance, of major importance are the study habits and attitudes that are the objectives of enrichment studies.

Winnipeg Public Schools[48]

Winnipeg, Manitoba, is attempting to meet the specific needs of the bright youngsters in its public schools through

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[48] Arthur D. Thomson, "Education of the Gifted in Winnipeg," Exceptional Children, 24:2-5, September, 1957.

Major Work Classes. The first three classes for the mentally advanced were organized in the elementary schools in the spring of 1954. Additional classes have been organized each year. When schools opened in 1957 there were twelve special elementary classes and six classes in the junior high.

Children get into the Major Work classes on the basis of their intelligence ratings, preferably the Stanford-Binet, and the recommendations of the school and the Child Guidance Clinic. Thus far, no children with IQs of less than 130 have been admitted.

An informal atmosphere is maintained in the Major Work Classes. The enrollment is low enough to ensure that the teachers can handle the necessary group work adequately and take care of the extras which provide varied enrichment.

The youngsters in the classes are not entirely isolated from the rest of the school. They have contacts with other children of their age in music, physical education, and on the playground.

The keynote of the program is enrichment. This means that the brighter youngsters accomplish much more than those in regular classes. The children are not allowed to attempt the work of the next grade. Enrichment is brought about by activities resulting from reading, discussion, and by different methods of instruction. The bright children are encouraged

to branch out in their reading interests and thereby broaden their outlook.

The Wright Elementary School[49]

Teachers in the Wright School in Wright, Minnesota, have spent considerable time in past years working out ways and means of taking care of their retarded youngsters. In 1956 they realized that the quick and more creative children were not receiving enough stimulus and inspiration.

The plan worked out by the Wright School to correct this situation evolved around club work. Art Clubs, Writers' Clubs, Drama Clubs, and Readers' Clubs were started, and children outstanding in each field became members.

The Art Clubs decorate the school windows, corridors, library, and classrooms for special days and special occasions. The Writers' Clubs write plays, poetry, and stories.

The most active clubs are composed of children interested in dramatics. They enjoy their work with dramatic poetry and impromptu plays.

The Science Clubs' members carry on experiments by themselves and during science classes and tell their classmates the results of their experiments.

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[49] Alice Smith and Vivian Peterson, "The Gifted Lead Clubs in Our Schools," The Instructor, 66:63, January, 1957.

Most of the club meetings are held during the noon hour. During these meetings the teachers add bits of interest, stimulus, and motivation that "keep the ball rolling."

The writers have already confessed to a major weakness in this thesis: having to depend upon available literature on gifted programs. Much of the material available in the area was disregarded because the writers felt that the articles were written to advertise specific enrichment programs which were not enrichment.

Teachers, administrators, and "experts" who have written in glowing terms about their programs could be sincere in their beliefs that their gifted are being well served. On the other hand, the writers frequently shared the opinion that the profession (like many another profession) enjoys jumping on "bandwagons" and "keeping up with the Joneses."

An examination of available theses written in the field of child giftedness would seem to indicate that the writers of theses who sent survey instruments to the various school systems share a common weakness. Examination of check lists (or similar instruments) and a survey of literature on giftedness indicate that the reader knows what the various authors want known concerning:

what the programs are doing for the gifted, or

what the writers think they are doing for the gifted children.

Your writers would like to think that great strides are being taken in our services to the gifted. Certainly with so much interest being shown in giftedness, some good must result.

Elsewhere the writers lend their support to a program which permits segregation of the gifted.

The readers may find the following section, Starting a Gifted Program, of interest. A friend of one of the writers made an honest attempt to "start the ball rolling" and do something for the gifted in her school. How much will actually be accomplished depends upon whether the current enthusiasm for the project is maintained.

IV. STARTING A GIFTED PROGRAM

A school administrator in a neighboring state, a friend of one of the writers, was well aware of the gifted problem in her school. On her own, she investigated and evaluated her town's educational facilities and gifted child population.

Her survey showed the following facts:

1. In January, 1957, the school had an enrollment of 967 students. They included:

   594 pupils in grades 1-6
   180 pupils in grades 7-8
   193 pupils in grades 9-12.

2. Each grade (kindergarten through grade 12) had three sections.

3. The class size was approximately 25 to 30 students.

4. Because the building was not adequate for the then enrollment, three primary classes were meeting in local churches.

5. The town was fortunate in having good educational leadership and excellent instructional equipment. It had school-owned musical instruments, numerous supplementary textbooks, a good reference library, well-equipped laboratories, shops, and art rooms, and an unusually large amount of audio-visual materials.

6. Numerous extra-curricular opportunities were offered in many areas, including dramatics, public speaking, physical education, photography, creative writing, art, journalism, and debate.

7. The school employed fifty-six teachers and had the services of part-time teachers through a Board of Cooperative Services.

8. Many of the staff members had broad interests and capabilities which could be used in a gifted child program.

9. Most of the families from which the school's population came were in the lower-middle social class. The parents either operated farms or worked in factories.

10. Five students, believed to be gifted by the administrator, were given individual IQ tests. The results ranged from 153 to 160. The tester "expected" to locate 75 to 100 students with IQs of 120 or more in the entire school population.

After a survey of possible programs and local resources, the administrator formulated a basic philosophy of education for the gifted. She stressed that the conclusions were not original but seemed to underlie the research and successful school practices. She concluded that:

1. There was a need for a gifted child program. Her findings showed that the gifted were the most seriously retarded students in the school.

2. The gifted had to be identified by every possible means.

3. Cooperative planning by administration and faculty was necessary to crystallize their philosophy and determine their objectives. Objectives should be based on the research findings of the nature and needs of mentally superior children.

The administrator favored a program which would combine enrichment and special class techniques, often called partial segregation. She suggested that the various county schools could utilize the services of a Gifted Child Consultant. The consultant could assist the teachers and the county psychologist in the identification of the gifted. He could suggest and advise enrichment activities and experiences which the teachers could develop in their regular classrooms.

The consultant might also meet with students for an hour once or twice a week to guide them in individual and group projects. He would supply much of the vision and impetus for the program, but the teacher would still be the heart of the plan.

(The school under discussion is currently spending considerable time and effort in locating its gifted. The great interest shown by parents and teachers will certainly produce some worthwhile results. Once underway, the program should open new paths for the school's gifted.)

In the following pages the writers have included a number of suggested activities to aid the teacher who must serve the gifted in the regular classroom. Many of these activities also serve to enrich programs for the average and below-average. Whether they actually serve the superior children depends upon the teacher's approach and his willingness to let these children broaden vertically and horizontally. Like the electrician, the teacher can make or break a circuit.

CHAPTER IV

SUGGESTED ACTIVITIES FOR THE GIFTED

Activities selected for the gifted child should be designed to improve the individual and increase his usefulness to society, and not serve only as a means to keep him busy and out of trouble. The teacher has a definite obligation to provide a challenge for the gifted child.

Little has been done to help the teacher in his search to aid the gifted. Many authors offer general suggestions, but rarely is there found a specific list of suggestions. Since many school systems only suggest a few ways to aid the gifted, it is felt that the individual teacher must take it upon himself to accelerate or enrich the curriculum for the gifted. The following pages offer suggested activities that could be used with the gifted by every teacher.

The compilation of activities useful for the gifted pupil is limited because the number of activities is limitless. The activities here are only suggestions. It is hoped that they will serve to inspire the development of new and better activities by the teacher. Far too often teachers are cognizant of gifted students but cannot spend as much time as they desire in assisting them. It is believed that the list of

activities will suggest ideas that can be expanded by the teacher, thus saving him time.

The activities have not been graded because it is felt that it is impossible to grade them. Many activities that are listed could be activities for the average student in a higher grade, but would be activities for the gifted student in a lower grade. The choice is left to the teacher.

Many activities are useful for more than one subject area. Rather than repeat such an activity in several areas, the activity is placed in the most significant area. For example, the topic, "Research in the library," is applicable to all subject areas but is found under language arts since library work is considered under language arts. Wherever a specific activity is given for library research, it is found under the subject area.

I. SPECIFIC GOALS

The goals for the gifted child are similar to the goals for the average child; but the gifted child must become more proficient in these goals, and the attainment of them should be more intense and longer lasting. No compilation of goals could ever be complete, just as no list of activities could be complete, because of the endlessness of such a list. Nevertheless, such a compilation must be made so that we have a definite starting point.

A compilation of objectives from a bulletin of the Los Angeles City School Districts, Division of Elementary Education and Counseling Section, summarizes the goals adequately.

1. In citizenship, the gifted pupil:

   a) Accepts responsibility in group undertakings and in civic affairs;
   b) Applies his knowledge of such subjects as history to the understanding and solution of community, state, national, and world problems;
   c) Develops ability to detect and analyze propaganda in public affairs.

2. In basic skills, a gifted pupil:

   a) Checks information with facts;
   b) Searches for the meaning behind the number or the numerical relationship he uses;
   c) Understands methods of checking computed results and uses these methods in checking problems.

3. In understanding environment, a gifted pupil:

   a) Recognizes the possibilities of improving environment through specific scientific and industrial development;

   b) Realizes the powerful social and economic implications of atomic energy;
   c) Acquires a store of knowledge and understanding concerning science.

4. In effective thinking, a gifted pupil:

   a) Recognizes a problem and defines it clearly;
   b) Thinks in terms of the whole and sees parts in relationship to the whole;
   c) Gathers and studies facts about a problem, distinguishing between fact, opinion, and propaganda;
   d) Learns to use sources of information effectively;
   e) Weighs evidence, makes inferences, and draws conclusions;
   f) Checks his conclusions for accuracy, modifying his thinking as the evidence dictates;
   g) Detects within himself and tries to overcome such

things as subjectivity, rationalisation, projection, and prejudice, which inhibit effective thinking;

h) Does creative thinking, such as using the imagination, writing the thinking of a group to form a new concept.

5. In world understanding, the gifted pupil realizes that education is a powerful force in alleviating misunderstandings, tensions, and persecutions arising out of variations in peoples and their cultures.

II. LANGUAGE ARTS

A. Literature

1. Become increasingly selective in reading.

a) Newberry Award selections for outstanding stories
b) Caldecott Award selections for outstanding illustrations
c) Myths and heroic legends
d) Stories and books of inspiration
e) Poetry collections
f) Biographies of famous people
g) Travel stories and stories of the natural world
h) Books about hobbies and handcrafts
i) Books in the field of expertness
j) Free reading of books of an advanced level

2. Free reading for interpretation and reaction.

B. Research

1. Use sources appropriate to the kind of information needed.

a) Reference materials to aid in finding background material

(1) Dictionary
(2) Encyclopedia
(3) World Atlas and Globe
(4) World Almanac
(5) Who's Who
(6) Statesman's Yearbook
(7) Thesaurus
(8) Secretary's Handbook

b) Different kinds of written material

(1) Periodicals
(2) Daily newspapers
(3) Brochures and leaflets
(4) Letters of famous people

2. Look up material for the teacher in the library.

3. Use many reference sources to validate information and judge between conflicting statements.

C. Library Skills

1. Develop proficiency in the use of general library skills.

a) Card files and index catalogues
b) Readers Guide to Periodicals
c) Dewey Decimal System

2. Develop interest in a home library.

3. Classify reading materials for the school library.

4. Assume leadership as a school or class librarian.

5. Assume leadership of a classroom committee to establish and maintain a class library.

a) Return books to the proper shelf.
b) Help others find library books according to their reading ability and interests.

6. Become familiar with public libraries.

a) Interview the librarian.
b) Report to the class about the library.

7. Make annotated bibliographies of books in the school and class library.

8. Become familiar with the correct bibliographical forms for:

a) Books
b) Periodicals
c) Yearbooks

9. Set up book displays and fairs.

10. Assist the school librarian.

D. Oral and Written Language

1. Write and produce a radio program.

2. Organize and direct a prop room for school plays.

3. Arrange and participate in a pantomime program.

4. Write dramatizations of historical events and stories.

5. Outline or summarize the high points of a unit of work.

6. Make a collection of folk tales to tell the class.

7. Prepare a debate.

8. Become a class pollster on historical issues, school attitudes, and student body decisions.

9. Express his feelings about music, paintings, etc.

10. Report about aesthetic experiences---concerts, plays, museums.

11. Make inquiries and arrangements for exhibits on tour or field trips for the class.

12. Plan for an interview.

13. Plan an assembly or class program for a holiday.

14. Write to pen pals in foreign countries and report interesting findings to the class.

15. Share a good adult work with the class.

16. Trace and construct a family tree.

17. Build a file of resource persons who would be able to provide the class with valuable information on particular units during the year.

18. Direct plans for a class party or a special event.

19. Write articles for the class, school, junior high, senior high, or city newspaper about activities in the school.

20. Develop skill in interpreting through the use of literary allusions.

21. Write an autobiography with style.

22. Write dialogue for dramatizations.

23. Write character sketches.

24. Write original stories, poems, or a book.

    a) Fables and legends that are typical of a period
    b) Science fiction

25. Prepare and give talks based on results of research activities with accompanying illustrations, exhibits, and other visual aids.

26. Be a guest lecturer to the lower grades.

E. Special Interests

1. Make book jackets.

2. Make vocabulary charades.

3. Devise new language games.

4. Form a reading or writing club in the class.

5. Make up enrichment packages--envelopes of assorted puzzles, bits of poetry.

6. Keep individual vocabulary lists of unusual words from various sections of the United States, professions, industries, and trades.

7. Find out how stories came to be written, such as myths and legends.

8. Coach other pupils who are below in reading.

9. Compile own dictionary.

10. Compile a list of new words learned and make a study of their origin.

11. Participate in a community drive, survey, or poll.

12. Become a class resource person who helps satisfy the curiosity of the class.

13. Learn about the history of books from the earliest times.

14. Learn about leading authors and illustrators of children's books.

15. Learn to use the typewriter.

16. Write slogans for school and Parent-Teacher Association functions.

17. Make annotated bibliographies in fields of interest.

18. Learn parliamentary procedures and ways of conducting meetings.

19. Develop microphone techniques and ability to speak easily and with poise.

20. Become familiar with publications which will help in developing writing skill.

    a) Thesaurus
    b) English Handbooks
    c) Handbooks of synonyms and antonyms
    d) Unabridged dictionaries

21. Analyse written expression to note how authors:

    a) Create the mood of a story
    b) Delineate character
    c) Establish the setting
    d) Build up sequence
    e) Build toward a satisfactory climax

22. Increase understanding in the area of poetry.

    a) Read poetry aloud with meaning.
    b) Study different meters.

23. Improve speech through the use of a tape recorder.

    a) Listen to play-back of speech.
    b) Evaluate speech to discover areas in need of improvement.

24. Develop dramatic abilities by presenting mock broadcasts, telecasts, and plays.

25. Develop conversational familiarity with modern foreign languages.

26. Develop some familiarity with classic languages.

a) Contributions to modern languages
b) English derivations

III. SOCIAL STUDIES

A. World Cultures

1. Learn about the past world cultures.

a) Learn about the development of western civilization.

✓b) Become familiar with the biographies of famous men and women of the past.

(1) Write a diary of a historical character.
(2) Write an imaginary incident that might have happened to that person.
(3) Study the person's world at that time.

(a) Science and Medicine
(b) Literature
(c) Military
(d) Rulers and leaders
(e) The Arts

c) Graph the historical development of countries through the use of the time line.

✓d) Become interested in research leading to contrasting or comparing life in a given historical period or of a particular country with life in the United States today.

(1) Food, shelter, and clothing
(2) Religion
(3) Entertainment

✓ (a) Look up rules and direct games from a particular country.

(b) Select recordings or songs of a country or period in history.

e) Learn about prehistoric times and the dawn of civilization

(1) Wheel and its importance to civilization
(2) Man's attempt to increase his food supply
(3) Man's attempt to conquer his environment
(4) Man's attempt to develop laws and rules of behavior

f) Collect material regarding the history of man.

g) Learn about early cultures that have influenced our civilization today, such as Egyptian, Babylonian, and Phoenician.

(1) Build a desert oasis on a sand table.
(2) Make a study of the gods.
(3) Dramatize interviews with ancient families. Talk about ancestors, work, family life, etc.
(4) A character from history slips out from the covers of a book and tells about himself.
(5) Their influence on mathematics, astronomy, alphabet, laws, and modern words.

h) Learn about the classical cultures and their influence on our culture today, such as Greek and Roman.

(1) Models of Greek and Roman homes
(2) Mythology

i) Trace important movements in the development of democracy.

j) Write original stories based on individual research about a given period of history.

(1) Imaginary journals of trips
(2) Diaries
(3) Letters about a particular topic

k) Write and present dramatic sketches concerning events of historical significance.

2. Learn more about present and world cultures.

a) Specialize in reading books on the geographical backgrounds of countries and regions studied.

b) Become the class diet detective. Through library research, discover what peoples of various cultures eat.
c) Become the class game detective. Through research find games of all the world or ones that are typical of a country.
d) Make a detailed study of world religions.

(1) Origins
(2) Present practices
(3) Religious art
(4) Explain your own religious concept.

e) Make a more detailed study of a country or region.

(1) Illustration of study of South America

(a) Diary of an airplane tour to South America
(b) Play about a cruise to South America
(c) Plan a travelogue
(d) A tropical fruit display
(e) Make and serve South American fruit drinks and food.
(f) Arrange for interviews with people who have been to South America.
(g) Display exotic South American flowers.
(h) Life in an Inca village
(i) Show how to make a Panama hat
(j) An airplane trip over the Andes
(k) A cruise along the coast of South America
(l) A trip through the Panama Canal
(m) The nitrate fields of Chile
(n) A river trip up the Amazon
(o) Prepare a booklet of original stories, poems, etc., about South America.
(p) Explain how the Panama Canal has helped the west coast countries.
(q) Plan a debate discussing the influence of environmental factors on the activities of the people of South America.
(r) Learn to speak a few Spanish and Portuguese words.
(s) Why is South America backward in spite of its natural resources?
(t) Why do the North American and the South American need each other?
(u) Plan a recital of South American music.

(v) Plan an exhibit of clothes, products, stamps, and household articles.
(w) Role playing

(2) Plan an imaginary trip across the United States.

(a) Field trips
(b) Reports on industries
(c) Invite speakers.
(d) Study the landmarks.
(e) Education
(f) Study of a particular community

i) Clay model of early days
ii) Lives of famous people in the community
iii) Geography
iv) Map of the community including important landmarks

(g) Find out about different cultural groups in various parts of the United States.

i) Become interested in the section of large cities in which large concentrations of cultural groups have settled.
ii) Become aware of the interesting cultures and traditions which have continued intact and those which have been modified.
iii) Learn their contributions in music, art, dancing, government, language, food, and customs to the United States.

B. Maps and Globes

1. Make a list of geographical features, giving descriptions by which people can identify them.

2. Make supplementary maps.

a) Rainfall
b) Minerals
c) Transportation
d) Land surface
e) Pictorial maps
f) Illuminated

g) Bus routes of the community
h) Maps with essays on products and localities
i) Globes of the world made from papier mache
j) Three dimensional relief maps
k) Map of the community showing size and width of streets, buildings, and landmarks
l) Various geographical features

3. Engage in more detailed map study.

a) Latitude and longitude
b) International Date Line, Greenwich Meridian, and the way in which time is determined
c) Learn about different map projections.
d) List and learn map symbols used in atlases and in research texts.

4. Use maps for the interpretation of current events.

5. Become aware of measuring distances in terms of nautical miles, air miles, and leagues.

6. Make up games using automobile road maps, longitude and latitude.

7. Search for information about unusual topographical areas in the United States and other parts of the world, such as volcanoes, coral reefs, and glacial fields.

C. Current Events

1. Become aware of current happenings in the world.

2. Analyze information in terms of implications.

3. Follow and explain a current event.

4. Analyze sources of information.

5. Serve as a class news editor who summarizes important historic happenings for the class paper.

6. Attend and collect useful information from the meetings of political groups or neighborhood associations.

7. Compare current events with events in the past that may have a bearing on them.

8. Become interested in biographies of people in the news.

9. Serve as a class cartoonist who depicts happenings in the world for his class paper.

C. Leadership

1. Develop leadership capacities in the classroom or school.

a) Become a class reporter who takes note of undesirable social trends in the classroom and on the playground and illustrates them via skits which aim to do away with these undesirable practices.

b) Become responsible for checking TV guides and suggest historical programs which his classmates might find interesting.
c) Be the class administrative specialist who directs social studies committees into groups of specialists like historians, economists, etc.
d) Perform volunteer service for civic functions within the classroom or school. He can serve as a host, assist in school clean-up drives and assist in student council and school patrol activities.
e) Act as a historical salesman to help in the promotion of good learning. He can discover via research, items used in different periods of history, make advertising posters, and conduct campaigns for the contemporaries of the period.
f) Become the class authority on elections for the room or the school. He can visit poll officials in the locality to obtain information on democratic processes. He can use what he has learned in organizing a school campaign.
g) Take an active part in school government.
h) Conduct class meetings.
i) Participate in school service clubs.

2. Learn about the structure and function of government.

a) Compare and contrast local, state, and national government.
b) Become aware of governmental agencies and their functions.
c) Understand some of the duties of the three branches of national government.

f) Learn about the development and effect of documents of historical significance.

(1) Magna Carta
(2) Constitution of the United States
(3) Declaration of Independence

g) Study the planning of a community or a city.
h) Develop some understandings regarding taxes.
i) Learn bout the development of law and the methods by which our courts operate.

D. Special Interests

1. Construct special materials and audio-visual aids for use by the class in social studies.

a) Be the class photographer who takes pictures of completed projects, class demonstrations, etc., which might be added to a class picture file.
b) Be the tape recorder man in his class who recreates interesting historical episodes with the assistance of his classmates.
c) Be responsible for play sets which are used in dramas depicting historical events.
d) Be the class muralist. He may make three dimensional maps with collected articles attached, which are pertinent to the era or period under study.
e) May be the class model maker who makes models which can be utilized in class demonstrations.
f) Be responsible for the social studies unit calendar. He would make sure that oral reports are spaced so as to prevent bunching on final days of unit work.
g) Assist the teacher as the editor of the class picture file. Pictures collected of famous men, important battles, products, special day material, could be filed or mounted on cardboard.
h) Present a filmstrip with narration, asking questions and then giving a test.

2. Use research based on individual interest to supplement class work.

a) Be the class surveyor of historical data. He could plot his findings in charts, graphs, etc.
b) Be the calendar man in his class, constructing

a monthly illustrated calendar depicting holidays and birth dates of famous people. He may wish to study calendars used by foreign countries which are very different from his own school calendar.

c) Prepare a cartoon vocabulary by selecting words and phrases from the current unit and illustrating each by a cartoon.

d) Develop a "true comic strip" to illustrate events studied, such as the Crusades, the Gold Rush.

e) Make a series of costume plates to show how people dressed at the time and in the place being studied.

f) Make an ancestry map depicting the national origins of the pupils in the class.

g) Make a collection of descriptive names of local roads and places. Then trace the origin of the names by consulting local resources including a long-time resident of the community.

h) Help the teacher explain technical aspects of subjects being discussed, and diagram on the board to facilitate class understanding.

i) Study the origin, color, design, purpose, and meaning of flags and shields.

j) Build a file of possible field trip resources. These will include local spots of historical interest, museums, government offices, industrial plants, transportation centers and places where various types of business transactions may be observed.

k) Offer his services as the class resource person.

l) Visit the school and local libraries and prepare a bibliography for his social studies classes of biographies of presidents and fiction and non-fiction appropriate for his class level.

m) Discuss the responsibilities of the father, mother, and children of other lands. Compare their responsibilities with ours.

n) Paraphrase important speeches or documents in simple language.

(1) Gettysburg Address
(2) Declaration of Independence

3. Develop creative activities to extend interests of other members.

a) Draw a comic strip of some historical incident or character.

b) Develop puzzles for a "Social Studies Surprise Box," which pupils might use during their free time.
c) Design posters for the classroom which advertise new books in the field of social studies which are in the school library. He can be given class time to explain the interesting features of the new library acquisitions. Space could be provided in the class newspaper for him to review these new books.
d) Prepare a "Who's Who of the Class."

4. Plan dramatic activities based on special interest to supplement class work.

a) Write a script for narration to depict an important movement or development, such as the Industrial Revolution or the migration of people.
b) Do interviews of historical characters using the format of "This is Your Life."
c) Prepare various radio and television programs.

(1) "You are There"
(2) "See It Now"
(3) "The Twentieth Century"
(4) "The Sixty-four Thousand Dollar Question"
(5) "Dr. I. Q."
(6) "Twenty Questions"
(7) News program

IV. ARITHMETIC

A. Time

1. Learn arithmetical concepts related to astronomy.
2. Understand time zones.
3. Use various kinds of time tables.
4. Read and write large numbers found in the study of the Solar System.
5. Learn arithmetical concepts related to the seasons.
6. Study the history of clocks.
7. Learn about the different ways of telling time.

a) Use the twenty-four hour reference base.
b) Time speed for different purposes.

8. Learn about the calendar.
9. Understand the concept of decades and centuries through the use of the time line.
10. Compare the speeds of man, animals, and machines.
11. Discover time-space relationships.

B. Money

1. Learn about the history of money.
2. Learn about foreign exchanges and the conversion to United States money.
3. Visit the local libraries and find out what is done with the money collected in fines.
4. Do research on stocks and bonds and perhaps "purchase" stocks and watch the fluctuations of his purchase.
5. Visit the town budget officials and learn how the local budget is drawn up.
6. Visit the post office to gather information about money orders, postal notes, etc., and report back to the class.
7. Become familiar with banks.

   a) Find the origin of the words bank and bankrupt.
   b) Learn how to write checks and deposit slips.
   c) Learn how to interpret a financial statement.
   d) Discover how the bank is able to pay money for the use of money.

8. Learn about the minting of money.
9. Become aware of the many ways in which money affects your daily life.

   a) Consumer values
   b) Price studies
   c) Cost of government
   d) Stamps
   e) Income
   f) Taxation

10. Compute the cost of school property in terms of land and measures and in the monetary system of pioneer days.
11. Study comparative costs of cash payment versus credit buying.
12. Calculate the comparative cost of renting a home versus buying one.
13. Study a problem such as the cost of building a house which involves kinds of materials, construction, installation and labor costs as well as furnishing.

14. Work out a personal budget.
15. Become acquainted with the financial section of the newspaper.
16. Assist the teacher in collecting milk and cafeteria money.
17. Compare the advertised prices of food from different stores to find the best buys.
18. Compare the cost of the pioneer's food, clothing, and shelter with yours. Compile budgets for the two.
19. Analyze the costs of message units on telephone calls.
20. Compute telephone costs for night letters, telegrams, radiograms, cablegrams, ship-to-shore messages, and long-distance calls in the United States and overseas.

C. Measurement

1. Understand a variety of linear and quantitative measures.

   a) Metric system
   b) Nautical miles
   c) Leagues
   d) Fathoms

2. Make graphs and charts to illustrate data gained through individual research.
3. Learn the purpose of various gauges, meters, and other mechanical devices.
4. Make accurate representations of geometric planes using various materials.

   a) Square
   b) Rectangle
   c) Triangle
   d) Circle
   e) Oval
   f) Trapezoid

5. Make accurate representations of solid geometric figures.
6. Use many types of measuring devices such as scales, transit, etc.
7. Engage in individual research to trace the development of measurement from the crude devices used by primitive people to the highly accurate devices used today.

✓8. Experiment with early units of measure.

a) Finger
b) Palm
c) Cubit
d) Span
e) Ell
f) Girth
g) Foot
h) Space
i) Fathom

9. Convert recipes to feed larger or smaller groups.
10. Figure cost and measure equal portions in school lunch.
11. Understand arithmetic in photography.
12. Learn about foreign weights and measures and their conversion.
13. Lay out a football field, soccer court, or softball diamond on the playground.
14. Find out how water, gas, and electricity are measured when they are used in the home.
15. Make floor plans to scale.
16. Read and interpret scale models, plans, drawings, diagrams, and blueprints.
17. Plan a model home, including the dimensions or areas within the proposed home, interior decoration and landscaping.
18. Learn the use of many different types of graphs and charts used to interpret measurement.
19. Develop skill in estimating in measurement.

a) Distances
b) Weights
c) Areas
d) Volumes
e) Quantities
f) Costs

✓20. Estimate the quantitative values of indefinite amounts.

a) An arm's length
b) A stone's throw
c) A day's journey
d) A lump of butter
e) A pinch of salt
f) A drop of water

D. Problem Solving

1. Create practical problems based on current and individual interests.
2. Develop and use formulas.

   a) Cost, number, price
   b) Distance, rate, time
   c) Percentage

3. Find the average daily consumption of family and community of water, gas, and electricity.
4. Discover the many ways in which arithmetical processes may be applied in daily living.
5. Work a problem skit based on class work.
6. Make the problems in the arithmetic book up to date by making the figures more practical.
7. Plan the various phases of a trip.

   a) Reading maps
   b) Computing and comparing costs

      (1) Transportation
      (2) Entertainment
      (3) Food
      (4) Clothing

   c) Planning time schedule
   d) Comparing various means of transportation in relation to travel time.
   e) Relating the various phases of a trip to other studies, such as art, music, history

8. Make charts and graphs picturing his class' achievement in mathematics and other subjects.
9. See subheading B.

E. Computation

1. Enlarge and extend arithmetical table in the text.
2. Become familiar with different types of computational devices, including their history and use.

   a) Abacus
   b) Adding machines
   c) Computators
   d) Slide rule
   e) Speedometer
   f) Odometer

g) Pedometer
h) Counting board
i) Univac

3. Improve skill and speed in mental computation.
4. Make computational aids for use by the other children.
5. Evolve an original counting system using original signs and symbols.
6. Act as class warm-up drill master who asks other youngsters their factor combinations.
7. Find unique ways to verify sums, thus strengthening their number understanding.
8. Create arithmetical riddles, puzzles, and games.
9. Discover shortcuts in computational processes.
10. Be the person responsible for keeping game scores.

F. Number System

1. Learn the history of our number system.
2. Learn about number systems other than our own.
3. Prepare reports about the value of our number system to our way of life.
4. Work with very large numbers to extend place value concepts.
5. Create and work number puzzles, riddles, and games.
6. Make a code by using numbers.

V. SCIENCE

A. General Activities

1. Provide experiences in scientific experimentation.

a) Suggest experiments to supplement a class science unit.
b) Follow experiments conducted in class.

(1) Record and log results.
(2) Note and expand applications to classroom experiments.

c) Contribute to the evaluation of classroom experiments.
d) Conduct and report on experiments related to classroom science units.
e) Conduct and report on experiments based on individual interest.

2. Provide experiences in scientific research.

   a) Locate sources of scientific information and make them available to the class or group.

      (1) Scientific reading matter
      (2) Community resources
      (3) Guest speakers
      (4) Audio-visual aids

   b) Conduct scientific research in areas of special interest.

3. Provide experiences to develop leadership.

   a) Present special-interest science reports to

      (1) Other classes
      (2) Groups of parents and teachers
      (3) Community groups

   b) Help other children understand scientific concepts.

      (1) Present reports and exhibits suitable for other grades.
      (2) Read and interpret science articles to other children.

   c) Organize science work areas, bulletin boards, and libraries.
   d) Organize and participate in science clubs, groups, and committees.

4. Provide extended home and community activities.

   a) Develop leisure time activities in a special science interest area.

      (1) Collections
      (2) Models
      (3) Trips
      (4) Hobby clubs
      (5) Sketching
      (6) Exhibits
      (7) Reading

   b) Become familiar with science resources in the home and in the community.

e) Report the scientific aspects of visits to places of interest in the community.

5. Provide experiences in the use and care of science equipment and material.

a) Assume responsibility for storing and caring for science equipment and materials in the classroom.
b) Learn to use and care for special scientific equipment.

(1) Microscopes
(2) Cameras
(3) Weather instruments
(4) Telescopes

c) Contribute to club, group, class, or school kits of science materials.
d) Organize and maintain science kits.

B. Specific Activities

1. Physiology

a) Make a survey of the class and determine which members have the best posture. Keep a record with possible suggestions for improvement.
b) Make a detailed comparison of the human body and an automobile or some other machine.
c) Test to see how lack of various foods affects the body by using white rats.
d) Dissect a frog to show the parts of the body.
e) Learn to apply First Aid.
f) Reports

(1) Vitamins
(2) The effect of disease on the body
(3) Functions of the body

2. Botany

a) Learn the classification of plant life.
b) Keep a diary of sprouting seeds.
c) Experiment to see what plants need to live.
d) Grow plants without soil.
e) Experiment to see how plants get water.
f) Be a class botanist who collects various plants at varying growth stages and report to the class on results of the research.

g) Prepare a terrarium to house a forest floor or a miniature swamp.
h) Reports
(1) The reproduction of a flower
(2) Describe the grafting process
(3) Does Massachusetts have a plant quarantine? If so, why?
(4) Are there any special plant diseases or insect pests in Massachusetts that may become dangerous?
(5) Tell about the life cycle of a tree.
(6) Observe plants through microscopes and report on observations.
(7) Reproduction of plants
(8) Poisonous plants
(9) Survey the different trees and wild flowers in the area.
(10) Describe the protective adaptation of plants.
(11) The plant as a factory
(12) Study of effects of colored lights on a bread mold

i) Become a class gardening expert who tends and supervises an indoor or outdoor garden.

3. Astronomy

a) Demonstrate the phases of the moon.
b) Draw the orbits of the planets to scale.
c) Make a model of the Solar System.
d) Make a homemade planeterium.
e) Make a shoe box projector for showing star groups.
f) Visit the planeterium at Science Park and make a report to the class.
g) Bring poems to class about stars and planets.
h) Give a lesson on the location of stars on a certain night.
i) Construct a sundial.
j) Collect current articles on astronomy.
k) Make and solve arithmetic problems on distances in the Solar System.
l) Write imaginary stories.

(1) The first trip to the planets and the moon
(2) Life on the other planets
(3) What would happen to the earth if the sun stopped shining?

m) Reports

(1) Important telescopes of the world
(2) The Milky Way
(3) The first magnitude stars and how to find them
(4) The spectroscope
(5) Famous astronomers
(6) Astrology
(7) Causes of eclipses
(8) Causes of tides
(9) Causes of night and day
(10) Causes of the seasons
(11) Star legends
(12) Theories on the formation of the Solar System
(13) How the stars are studied
(14) Constellations
(15) Life on the other planets
(16) Report on a particular comet, meteor, etc.
(17) Sun legends
(18) Importance of the sun to the earth
(19) Theories on the formation of the earth and the moon
(20) Earth Satellites

4. Physics

a) Heat

(1) Tell how heat insulators function.
(2) Tell how a refrigerator works.
(3) Report on different ways to heat a home and decide which is the most economical.
(4) Describe the principle behind the thermometer.
(5) Describe the function of air conditioners.

b) Light

(1) Check the color of sunlight through prisms.
(2) Reports

(a) The making of blueprints
(b) Operation of a camera
(c) Describe artificial lights.
(d) Uses of eyeglasses
(e) Describe refraction; reflection.
(f) How does a periscope function?
(g) How does the eye function?

c) Electricity

(1) Make models of common electrical equipment.
(2) Make electrical games to accompany other subjects.
(3) Reports

(a) Magnetism
(b) Making a light bulb
(c) What is electricity
(d) The earth as a magnet
(e) The electron theory
(f) How does a telephone work
(g) How do we get heat from electricity?
(h) How do we get light from electricity?
(i) How does a storage battery function?
(j) How does a transformer function?
(k) What is lightning?
(l) How does a radio work?
(m) How does a television set work?

d) Atomic Energy

(1) Make models of the atom and molecule.
(2) Reports

(a) Life of Einstein and other important scientists
(b) Atomic Energy Commission
(c) How are atoms of different materials alike and how are they different?
(d) Geiger counter
(e) How does an atomic pile work?
(f) What is fission?
(g) What is fusion?
(h) Peaceful uses of the atom
(i) Describe the A bomb.
(j) Describe the H bomb.
(k) Describe the structure of the atom.

e) Sound

(1) Make a telegraph set.
(2) Demonstrate how doctors test hearing.
(3) Make a xylophone or flower pot chimes.
(4) Reports

(a) How does the school public address system work?

(b) How do phonographs reproduce sound?
(c) How is a phonograph record made?
(d) How do we speak?
(e) How does the ear function?
(f) How do humans make sound?
(g) What is pitch?
(h) What is done in cities to reduce noise?
(i) What are the uses of sound in industry?
(j) Interview a member of a building supply firm regarding sound proofing materials. Get samples.
(k) Describe soundproofing in a broadcasting studio.

f) Machines

(1) Make models of motors.
(2) Design equipment that is needed.
(3) Reports

(a) How does an airplane fly?
(b) Visit an industrial plant and observe machinery in operation.
(c) Explain how various kinds of motors operate--electric, gasoline, diesel, gas turbine, jet.
(d) The first airplane

5. Chemistry

a) Demonstrate a chemical change.
b) Exhibit a collection of elements.
c) Show the difference between an acid and a base by scientific experimentation.
d) How are synthetic fibers made, what advantages do they have over natural fibers?
e) Reports

(1) Explain atoms and molecules.
(2) Useful uses of the chemical change
(3) Harmful effects of the chemical change

6. Geology

a) Reports

(1) Moh's scale of hardness
(2) Kinds of rocks found in Massachusetts
(3) Plan a correction of erosion in a well-known area

(4) The ways in which erosion changes the face of the land.
(5) Observe the use of rocks in local buildings.
(6) Paracutin volcano
(7) The glacial history of the United States
(8) The differences between volcanoes, hot springs, and geysers
(9) Classification of rocks as to sedimentary, metamorphic, and igneous
(10) Exhibit a rock collection with explanation.

b) Make dioramas of caves or the mining of minerals.
c) Make models showing the folding and faulting of the earth.

7. Paleontology

a) Make lantern slides of dinosaurs and their natural habitats.
b) Make models of dinosaurs or the formation of mountains.
c) Make a diorama of an early scene in geological history.
d) Make a cast of a fossil.
e) Make a chart showing the order of appearance of animals of the earth.
f) Give a report on fossils.

8. Meteorology

a) Construct a weather station on school grounds to gather data on air direction, air pressure, and temperature and devise instruments if commercial ones are not available.
b) Reports

(1) Visit a weather station and report on its operation.
(2) Explain how to read a weather map.
(3) Explain how to read air maps.
(4) Explain how to measure air pressure.
(5) Composition of air
(6) Causes of hurricanes
(7) Causes of tornadoes
(8) Causes of thunderstorms
(9) Man made weather
(10) Wind belts of the earth and how they affect the weather

(11) Atmosphere
(12) Stratosphere
(13) Explain fog, rain, and condensation by experiments.

9. Zoology

a) Mammals
(1) Explain how animals survive the winter.
(2) Tell about the duck-billed platypus.
(3) Describe the development of the horse.
(4) Describe the development of the elephant.
(5) Do research on the care and feeding of pets.
(6) Describe how animals take care of their young.
(7) Observe a pet animal and report on it.
(8) Raise frog's eggs for observation and report on their growth and development.

b) Ornithology
(1) Maintain a bird feeding station.
(2) Reports
(a) Bird migration
(b) Structure of a bird
(c) Why does a bird fly?
(d) Extinct birds and the reasons for extinction.
(e) Are starlings helpful or harmful?
(f) Why was the English sparrow imported into this country?

(3) Be able to identify birds through observation and research.

c) Entomology
(1) Raise silkworms and observe their growth cycle.
(2) Raise mosquito larvae to observe their change from a water to a land habitat.
(3) Observe the changes in insects through the seasons.
(4) Observe an insect under a microscope.
(5) Prepare an exhibit showing the damage done by insects and also their benefits.
(6) Keep a bee colony.
(7) Keep an ant colony.
(8) Construct and arrange an insect orchestra with locusts, grasshoppers, and katydids.

10. Miscellaneous

a) Make a scrap book of winter scenes and winter sports.
b) Conduct research to discover what people, plants, and animals do to prepare for the winter.
c) Study the history of telescopes and microscopes. Construct simple models of each.
d) Keep a nature calendar showing seasonal changes in the natural environment.
e) Establish a nature trail for the class to follow on nature walks. This consists of mapping paths which lead to various resource areas.
f) Make a list of superstitions. Determine whether there is any factual background behind them or whether they are all superstitions.
g) Make a detailed study of the origin of the things we use each day.
h) Make a survey of the fire hazards in the home, school, and community. Give findings to the class with suggestions for their elimination.
i) How is conservation practiced in our school?
j) Explain the water purification plan of the community.
k) How does the Pure Food and Drug Act protect you personally?
l) Grow bacteria.
m) Explain genetics.
n) Be the lighting expert for the school programs.
o) Explain the fire extinguisher.
p) Interview local residents for procedures to be observed by orchardists and farmers in conservation.
q) Discover which plants and animals are becoming extinct. Why?
r) Report on the game laws of the state.
s) Make a feel exhibit.

VI. IMAGINATIVE RESEARCH

A. Where did writing originate?

B. How was the force of gravity discovered?

C. Who found out that the heart pumped blood?

D. How did woven cloth develop into the miracle fibers of today?

E. How did the car develop from the horseless carriage?

F. How did the rocket ship develop from the first Chinese rocket?

G. How did can openers, pencils, pens, the alphabet or newspapers develop?

H. What would have to be done if we stopped wearing shoes?

I. Why do different countries have different currencies or rates of exchange?

J. What would happen if friction were only half as strong?

K. What would happen if we had only half as much gravity?

L. What would happen if we could walk through solids?

M. Pretend that you are a bird migrating to the South. What sights, weather conditions, mishaps, and accidents might you encounter on your journey?

N. Plan an imaginary press conference with George Washington. What questions would you ask? Why?

O. Write a diary of a boy crossing the prairies in a covered wagon.

P. Give an on-the-spot account of what happened to the Wright brothers at Kitty Hawk.

Q. Bring a character from a time of the past into the present and write a story about him: Robin Hood, Tom Sawyer, etc.

R. Pretend that you are a character from a story, and argue with the author as to why you are the character that you are.

S. Find three better ways for the city to remove snow.

T. If the moon pulls the earth's oceans for high tide, why is there high tide at two places at the same time on the earth?

U. Why didn't the ancient Greeks have last names?

V. Explain why it is possible for the Mississippi River to flow uphill to the Gulf of Mexico.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Never in the history of the United States has there been a greater demand for very able people--those who have developed their abilities to the utmost. It is the writers' conviction that current educational practices do not meet the demand. Superior training and superior ability must be deliberately brought together. A chance combination of the two may have been sufficient in the past, but today such an important issue cannot be left to chance.

The dawn of the sputnik and missile era appears to be driving home a lesson to people in and out of the field of education. The country which makes maximum utilization of all its human resources--the country with its superior brainpower interested in the common welfare--is the country best able to defend itself.

Elsewhere the writers noted that it is of utmost importance to make the best possible use of human resources. True conservation means good use of a precious nonheardable resource --giftedness. The country with the highest standard of living is and will remain the country which makes the best use of all its human resources.

The gifted represent one of this country's most valuable assets. Money and effort invested in their present and in their future will bring unlimited returns. In their hands may be placed a large share of the responsibility for carrying onward the accumulative skills and knowledges of the human race.

The superior in the classrooms could be the creators, the writers, the philosophers, the scientists and inventors, the producers of the fine arts, and the originators of a vast number of valuable ideas in a wide scope of human endeavor.

It is unfortunate that superior intelligence is not always accompanied by superior school performance. The classroom teacher with the heavy load is often too busy helping the average and the below-average to have time to discover and guide the bright.

The democracy factor is involved in any treatment of the gifted. There are those who believe that it is undemocratic to offer any special treatment to the gifted. But many of these same people see nothing undemocratic in the special class for the slow learner. The writers, and others who are experts in the field of giftedness, believe that the classrooms practice real democracy when each child is allowed to progress according to his ability. Democracy also implies that ability is nurtured regardless of an individual's origin or financial situation.

What is known about the gifted? The best available research has brought to light numerous misconceptions about

the personality pattern of the gifted. It has been assumed by many that the superior student is commonly unstable emotionally and feeble in physique. On the basis of current evidence, the idea must be discarded that the very bright are as a rule unsocial, physically unfit, bespectacled misfits.

Research shows that the bright students are on the average superior to the standards for their age in general health, size, and strength. Research indicates that versatility rather than one-sidedness is the rule among the gifted, and that superiority in academic work is one of their characteristics.

The gifted must not be neglected; no community can afford to use dollars and cents as a legitimate excuse for ignoring the problem of giftedness. While it is true that bright pupils often need more expendable materials, more books, selected teachers, and possible course offerings which are not normally available, they are more efficient users of teacher time and more careful in their use of facilities and materials. It must be stressed that society will reap large harvests in terms of services from the gifted in later years.

To say that there is but one answer to the problem of proper handling of the gifted in every community is unrealistic in the opinion of the writers. Surely, if the community is small and the identified gifted are few, one cannot advocate a

special classroom for the two or three in the small elementary school. But it is essential to ensure that their teachers be impressed with the need of real enrichment and minimal frustrations. When geography makes possible a union of all the gifted from the various schools in the system, the writers urge such a union in the name of democracy and common sense.

In some school systems, the gifted are completely segregated for their academic work but are allowed to mingle freely with the total school population in the school yards, and attend the regular assemblies and participate in other school activities. With such an arrangement, the gifted are able to assume their share of the usual school responsibilities as monitors and patrol officers. And, if the school's overall objective for these pupils is the same as for all pupils, a balanced development of physical, social, emotional, and intellectual growth can be achieved. The writers see partial or complete segregation as a sensible solution, a democratic solution.

Bright youngsters, working together, can stimulate each other to greater intellectual activity. They can exchange valuable ideas, take and give criticism, and share the results of their research in a manner that is impossible between students of vastly different abilities.

Teachers of classes made up exclusively of bright youngsters are enthusiastic about the relative ease of discipline.

They report that they find it easier to handle a large number of the gifted because they have greater attention spans, and they desire to learn and co-operate.

Some teachers who favor special classes for the gifted are hesitant about nominating pupils for these classes because they fear that they will leave from their lists others who are equally qualified and perhaps suggest pupils who would be "fish out of water." Certainly, if the method of identification stressed in this paper and elsewhere is systematically used, this fear is unfounded.

Some parents and teachers have objected to segregation of the gifted on the grounds that such grouping would make for an undemocratic aristocracy of conceited snobs. Sound experience has indicated that the exact opposite is nearer the truth. The results of any number of surveys might be quoted that prove this beyond a doubt.

The gifted, better-than-average youngsters in the regular classroom are not in the dark concerning their own abilities and the abilities of less fortunate classmates. If they are to develop an aura of conceit, it could well be laid in such a heterogeneous situation. But in a class with intellectual peers, they are faced with competition and can expect criticism from their equals.

The writers suggest that opponents of segregation or ability grouping examine some of the convincing literature by

such authorities as Dorothy Norris, Fritz Redl, Walter Barbe, Hedwig Pregler, Theodore Hall, and others.

The writers have included a chapter concerned with special activities for the gifted in regular classrooms. In answer to those who complain that these activities could also be utilized for the average, or even the below-average in certain cases, the writers stress the importance of the teacher. It will be up to the teacher to point out that these activities are but vehicles to limitless research, experimentation, and endeavor.

The writers have also included a chapter on programs for gifted youngsters as they are being utilized in various parts of the country. Some schools appear to be intelligently meeting the problem; others appear to be meeting the issue in theory but not in actual practice.

A doubt in the mind of one of the writers crystallized with a visit to Mrs. Madeline Goutant (reported elsewhere), gifted child expert in New York State. The doubt: That too few schools which are really solving the gifted problem with dedicated fervor and intelligent know-how are publicizing their efforts. The real workers in the field for the most part are the Madeline Goutants who are too busy to put their findings, achievements, and failures in writing.

That the needs of the gifted and of society may more nearly be met, the writers further recommend:

1. That the aspect of public relations and the gifted problem be more carefully considered, because the public is in need of accurate information, presented tactfully, to counteract the current folklore about the gifted.

2. That if the bright child must stay in the regular classroom, he be given his fair share of the teacher's time and attention.

3. That the greatest possible effort be made to match learning activities to the pupil's level instead of matching the pupils to the class level.

4. That all schools use all resources at their command to find the bright.

5. That sympathetic attention be given to the numerous experiments now being conducted on acceleration, enrichment, and other facets of the teaching of the gifted.

6. That teachers, who think they are enriching the work of the gifted in their classrooms, take time to survey and frankly evaluate their services for the better-than-average. A frank appraisal could mean a change for the better.

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