

1959

Enriching the Curriculum for the Gifted Child in a Fifth Grade Classroom

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**ENRICHING THE CURRICULUM FOR THE GIFTED CHILD
IN A FIFTH GRADE CLASSROOM**

**A Thesis
Presented to
the Graduate Faculty
Central Washington College of Education**

**In Partial Fulfillment
of the Requirements for the Degree
Master of Education**

**by
Margaret Frances Hotsko
December, 1959**

APPROVED FOR THE GRADUATE FACULTY

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ACKNOWLEDGMENTS

Grateful acknowledgment is extended to Miss Mary Simpson for her helpful guidance, her active and friendly criticism throughout the study.

Recognition also is due Dr. Ralph Gustafson for his assistance at the beginning of the study and Dr. J. Wesley Crum for serving on the thesis committee.

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

For a long time educators have been aware of the many diverse needs, abilities, and interests of children in the schools. They have attempted to make use of appropriate curricula, materials, and methods to meet the wide range of abilities in every classroom. Too frequently, however, educators have not realized that the same opportunity for all is not equality of opportunity for everyone. Even though they have tried to bring the greatest good to the particular needs of all groups. One such group is the gifted child.

I. THE PROBLEM

Statement of the problem. The purpose of this study was twofold: to get a better understanding of the gifted child and to find out how a fifth grade classroom teacher could best meet the needs of this child. After reviewing a few of the most intensive and best known studies of the gifted child, the writer attempted to present the three major problems facing those planning the educational program for the gifted child. The problems were: (1) identification of the gifted child, (2) placement of the gifted child, and (3) determining the teaching procedures to be

used in working with the gifted child.

Importance of the study. In the 1920's and 1930's the gifted child was a concern to educators. At that time some experimenting was done and a great deal of writing was found in the journals. Since that time the emphasis has been on other types of exceptional children, with increasingly satisfactory results. At the present time, the focus again seems to be on the gifted child. Professional literature is once again full of discussions and reports of practices. There are several reasons for this awakening: (1) the United States has grown into a position of world leadership, (2) we are in the midst of revolutionary and swift changes in many aspects of living, and (3) we have an acute shortage of trained and gifted leadership in most fields to handle the new complexities. An appallingly large proportion of our gifted children are not being given the education to bring their powers and talents to realization (39:85).

The need for leadership in human and scientific affairs has never been more critical. The ability potential of our population is limited. Not all young people are fundamentally qualified to become research scientists, engineers, statisticians, psychologists, and doctors. We must reduce the loss of potential talent by training such high talent as we have to its fullest realization (39:85).

The current drive, therefore, is to re-examine educational principles and practices to see what can be done, through schooling, to provide our country with the leaders so desperately needed. Teachers, administrators, and the community must co-operate in formulating policies and procedures for the education of the gifted. This would be in agreement with the democratic concept that all educational programs should be adapted to meet individual needs and abilities, and that educational opportunities should be provided so that every citizen can contribute to the common welfare to the full extent of his ability (56:81). "This," says Paul Witty, "will result in the conservation of our nation's greatest resources--gifted and talented children" (63:39).

II. DEFINITIONS OF TERMS USED

Gifted child. The term gifted child refers to a child with a high level of intelligence as measured by a standard intelligence test.

Talented child. A talented child is a child with specific talents or abilities in a single area. His I. Q. is not necessarily high.

Genius. A genius is an individual who has already made original contributions of outstanding and lasting worth.

Potential genius. A potential genius is a child with an I. Q. of 180 or above who is still in his developmental stage.

Acceleration. Acceleration is defined as any procedure which enables a student to complete his education a year or more earlier than the norm for his age. The common procedures are early admission to kindergarten, skipping a grade, doing three years work in two (rapid progress), early admission to college by skipping one or two years of high school, and college admission with advanced standing.

Segregation. The term segregation or ability grouping refers to the placing of gifted children in groups according to intellectual ability. It might be segregation in a separate school, a separate room, or in a special group for a part day program.

Enrichment. Enrichment describes the practice of broadening or intensifying the various academic or curriculum subjects for the gifted child within the regular classroom. It might be heterogeneous classes or in special homogeneous group classes. Enrichment includes widely varying provisions.

Marion Brown, a regular classroom teacher in New York, aptly sets the stage for the following chapters by

defining the word "gifted" as an adjective modifying a much more important noun. These gifted children are human, just like other children. Even though they possess the ability to learn more in breadth and depth than the average child and have better potential thinking ability than many adults, they are not a species apart. "They are American children, superior to the average population, but still a part of it" (10:381).

CHAPTER II

HISTORICAL BACKGROUND OF THE PROBLEM

Attempts have been made throughout history to provide education for the gifted child. The provisions, however, have been unsystematic and inadequate (63:1).

About 400 B.C., Plato speculated about ways of identifying the gifted. He wanted to educate them for leadership in his Utopian State. He felt that they should be identified as early as possible (55:259). A Mohammedan ruler, as early as the sixteenth century, selected youth to train as leaders. He chose the fairest, strongest, and most intelligent (57:1). The concept of superiority has varied with the ages. Birth, power, material wealth, and superior craftsmanship once were more important than intelligence. It wasn't until the Renaissance, the Reformation, and the Industrial Revolution that intellectual superiority came to be a criterion for leadership (36:70).

From the seventeenth century until the early part of the nineteenth century, little attention was given to the education of the gifted child. Believing that all men are created equal, educators designed the school curricula so that all children were given equality of opportunity (63:1).

In 1869, attention was focused once more on the gifted child by the publication of Galton's Hereditary

Genius. He made one of the earliest attempts to collect and study data about the superior child. Using his work as a basis, other scientific investigators such as Cattell, DeGandalle, Odin, and Ellis studied the history of the eminent during the past fifty years (55:259). Lewis M. Terman believed that this book marked the beginning of the interest in individual differences (59:Preface).

In 1904, Terman found the only literature available on the gifted child to be magazine articles and treatises written by doctors and educational theorists. They usually depicted the gifted child as abnormal, neurotic, sickly, one sided, and prone to intellectual deterioration or early death. Terman began to think these ideas might be well founded. Then in 1908 he had the task of revising the Binet Intelligence Scale. This led him into testing and following up many bright subjects, as a result of which he was convinced that here was a problem of major social and educational improvement (59:Preface).

His opportunity for a large scale attack on the problem came in 1921. A generous grant was made to Stanford University for the study of gifted children. Terman had already been following the development of about one hundred children with an I. Q. of 130 or above on the Stanford-Binet scale. This new study included a group of 1528 subjects selected from a population of about a quarter-million

school children. They set a standard of 140 I. Q. The study was to discover what traits were characteristic of the gifted child and what kind of adult this gifted child became (59:Preface).

From his first study in 1921, Terman found the typical gifted child to be attractive and well-rounded rather than the physical weakling and social misfit so often pictured. The investigation showed that:

The interests of gifted children are many sided and spontaneous. They learn to read easily, read more and better books than the average child and largely educate themselves. At the same time, they make numerous collections, engage in all kinds of childhood activities, and acquire far more knowledge of plays and games than the average child of their years...Perhaps the most significant thing about the play preferences of gifted children is that they reveal a degree of interest maturity two or three years beyond the age norm... (60:56).

Educationally, the average gifted child is accelerated in grade placement about 14% of his age, but in maturity of the subject matter taught he is accelerated 44% of his age. The net result is that a majority of the members of his own group, during the elementary school period were kept at two or three full grades below the level of achievement they had already reached...(60:55-56).

The children were studied again in 1927-1928, and Terman wrote:

Perhaps the most important outcome of the 1927-1928 follow up was the fact that the composite portrait of the group had changed only in minor respects in six years. As a whole the group was still highly superior intellectually, for the most part within the top one or two percent of the generality...(60:64).

Terman and his associates by the end of 1946 had pursued their investigation for twenty five years and were ready to make the following conclusions:

1. The status of gifted children is superior in physical development, educational achievement, intelligence, and personality.

2. In character and personality, gifted children are above the average. The degree of superiority, however, is less marked for traits indicative of emotional stability and social adjustment than for intellectual and vocational traits.

3. Gifted persons rate well above the average in vocational success and, as compared with the general population, are represented in higher professions by eight or nine times their proportionate share.

4. Marital adjustment of the gifted is equal or superior.

5. The insanity rate is low and serious maladjustment, other than insanity, amounted to only four per cent by 1945.

6. Nearly ninety per cent of the group had had some schooling above the secondary level and about seventy per cent had graduated from college.

7. The school records, in general, were superior at all levels, but a good many of the subjects failed to

achieve in proportion to their intellectual ability. One of the most important causes of this failure was the absence of educational procedures adapted to children of exceptional ability (60:45).

Terman felt that it was still too early to estimate accurately the ultimate contribution of the group to science, scholarship, literature, and the social welfare.

While Professor Terman was doing his investigation on the Pacific Coast, Leta S. Hollingworth was doing the same thing on the Atlantic Coast. Her area of study was the same, but the procedure she followed differed considerably. Although she contributed important facts concerning the nature of the gifted child, her chief concern was to find the proper educational provisions for the gifted child. She planned and supervised her experiment in every detail.

The first of her experiments began in 1922. She had one hundred gifted children in two Special Opportunity classes in the city of New York. One group had I. Q.'s ranging from 134 to 154 and the other had I. Q.'s of 150 and up. They all fell within the chronological age range between seven and one half and nine and one half years. Their grade placement in their former schools was between 3B and 5B. These classes continued for three years. She observed these children almost every school day and kept in

contact with her first experimental group until she died (63:55).

It was found that even with this homogeneous group it was still necessary to adjust the curriculum to the needs and capacities of the individual child. They needed only half the usual time to adequately cover the prescribed subjects, and some needed only one-fourth of the usual time. This left them with at least half a day for other material. For this time she used an enrichment program (63:56).

At the close of the three year period, the authors of the evaluation study concluded:

The advantages to be hoped for from the homogeneous grouping of gifted children lie not so much in the expectation of greater achievement in the tool subjects of reading, arithmetic, and spelling as in an enrichment of scholastic experience with additional opportunities (24:255-273).

The second experiment was started in 1934. This study ran for five years, and the same pupils were kept for the full time, except for transfers. Here, again, half of the school day was devoted to the prescribed school subjects and the other half to enrichment activities. Thus evolved the first steps in a curriculum for rapid learners which Professor Hollingworth had envisioned as "psychologically possible and proper, socially sound and ethically humanitarian" (31:119-128).

Neither Hollingworth's training as a clinical psychologist nor her temperament made her like highly statistical research. She was interested in the individual. For this reason, she did not try to follow in detail the progress of those gifted children she had studied. She did maintain contact with them for fifteen years through studies under her direction. Two follow up studies were written.

Professor Hollingworth was interested in the personality and social adjustment problems of the gifted child. She said over and over again that he must be discovered and trained in his early youth. He would, then, be adjusted in a society which so often regarded him as an oddity. She wanted him to have the proper education so that he could fulfill his potentialities. She realized that those few children who are at the top have a unique value for society (63:83-84).

In comparing her study with that of Terman's, Hollingworth had this to say:

Our findings in follow up studies of tested children in New York City confirm in all particulars his researches on the Pacific Coast. Since these several studies have been carried on in complete independence, one in the East, the other in the West, for nearly twenty years, we may certainly feel justified in the conclusion that we are arriving at truth about the mental and physical traits and the development of highly intelligent persons, coming as we do to the same results (34:90).

The work of both of these pioneers in different types of psychology displayed the highest standards of educational research. They insisted on systematic and exact recording of data, and both placed great trust upon objective mensural instruments. Both planned and carried through to completion extensive studies of their subjects. They were skilled counselors to the children they studied. To the many classes of advanced students to whom they gave their findings, they were master teachers. They left many facts concerning the gifted child, and they will continue to furnish a challenge and inspiration to other workers in the field (63:7).

Among organizations now attempting to stimulate more widespread interest in the gifted, is the American Association for Gifted Children. Their aim is to offer encouragement and provide educational opportunities for the gifted. The group is interested in building upon and greatly broadening the foundations of the past. It is concerned with discovering better ways of identifying the gifted in many different fields.

CHAPTER III

IDENTIFICATION OF THE GIFTED CHILD

I. WHO IS THE GIFTED CHILD?

The first problem is to determine who our gifted children are and where they are found. History shows us that place makes no difference. Some are found in cities, others in small towns, and still others in the country. Some come from rich homes, some from poor homes, and some from average homes. Race and religion make no difference either. Terman's study of one thousand bright children revealed that about one-third were found in families of professional people, one-half in families of semi-professional and business people, and the other one-sixth in homes of skilled and unskilled laborers (12:33). It is safe to conclude, therefore, that gifted children may be found wherever there are children.

Various terms have been used to designate the gifted child--genius, brilliant, talented, superior, bright, and the like. All authors mention outstanding ability with the emphasis on intellectual superiority. This might be because the best known studies of gifted children carried on by Lewis M. Terman of Stanford University and Leta S. Hollingworth of Teachers College, Columbia University, used mental

superiority as their primary criterion when they selected subjects for their classes. Those in Terman's study had to have an I. Q. of 140; the minimum for Professor Hollingworth's classes was 130 I. Q. along with emotional maturity, social adaptability, and physical fitness.

Different levels of I. Q.'s have been suggested for the lower limit of giftedness, although in the cities which have classes for these children there seems to be a fairly uniform standard between 120 I. Q. and 130 I. Q. There really is no sharp line of discrimination, however, between the gifted child, the ordinary child, and the dull child. It is a purely arbitrary matter as to where the line shall be drawn and who shall be called gifted. But in addition to the given intelligence quotient, there must be drive, originality, and initiative for unusual success in academic achievement.

In planning the needs of all pupils, each school system should make its own decision regarding what gifted means. Schools should be concerned with children and youth who have potential superiority in scholarship, leadership, mechanics, music, art or any other worthwhile human endeavor.

II. CHARACTERISTICS OF THE GIFTED CHILD

There seems to be considerable misunderstanding as to the nature of the bright or gifted child. Prior to Terman's study, gifted children, for the most part, were believed to be eccentric and emotionally unstable. Often the gifted child was shunned and looked on with suspicion.

Recent studies of gifted children by Witty, Hildreth, and Hollingworth (63:85) have made significant contributions to what is known about these children, proving many of the earlier beliefs to be wrong. Gifted children have been found not only to have superior mental abilities but outstanding personality qualities as well.

The traits of gifted children, like those of average children, fall into four groups: physical, emotional, mental, and social.

Physical characteristics. Careful studies show, that as a group, earlier physical development with fewer physical defects is characteristic of gifted children. Terman found that they were generally superior to all other groups in practically all physical traits such as breathing capacity, width of shoulders and hips, strength of muscles and grip (59:20).

As a group, they are relatively free from nervous disorders (61:10).

It is important, Barbe points out, to realize that even though the gifted child is superior in physical development, this superiority is not as great as is his mental superiority (4:209).

Emotional characteristics. Gifted children are usually more stable emotionally than the average child. In emotional traits (sense of humor, cheerfulness and optimism, and permanence of moods) gifted children, as a group, are well above the mean of the control group. This indicates that there is not much foundation for the common view that gifted children are emotionally unstable. This does not mean that there is no emotional instability found in gifted children, but only that there is slightly less (8:7). These children are less prone to change their minds once an opinion has been formed. They are not easily influenced. Self criticism is another attribute gifted children possess (61:11). In a test devised by Cady and Raubenheimer (63:24), the gifted scored higher in a test of emotional stability than did the unselected children.

Mental characteristics. Gifted children possess superior mental capacities and show special talents or abilities in some other area. Able to grasp quickly the fundamental knowledge and skills, they learn more rapidly and easily. At an early age an extensive vocabulary is discernible. Gifted children have superior reading ability. Since gifted children generally have a longer span of

attention, they are able to concentrate for a greater length of time. The ability to think logically and to generalize is shown by gifted children. They have great curiosity and ask questions and insist on answers in detail. They have been found to have originality; they prefer to create something rather than make copies. At times their resourcefulness is amazing (47:263-264).

The gifted see more than average children. They see relationships more quickly. They do not have to be told so many things. Because they seem to have a better power of imagery, they do not have to be shown. They show less patience with routine procedures and drill. However, they do not need drill as much as the average because they grasp new ideas more quickly (16:23).

Gifted children have an educational knowledge far in excess of the average for their grade.

It is a conservative estimate that more than half of the children with I. Q.'s of 135 or above had already mastered the school curriculum to a point two full grades beyond the one in which they were enrolled, and some of them as much as three grades beyond (59:28).

Social characteristics. Gifted children are usually socially adjusted and take an interest in other people. They are able to adjust more easily to new associates and situations. They are apt to choose children with a mental level similar to their own as their companions. They are friendly, trustworthy, and co-operative. Leadership

qualities usually show up at an early age (61:11). A battery of seven character tests devised by Cady and Raubenheimer (63:24) showed gifted children above average on every one. They show less inclination to boast or overstate their knowledge; they exhibit greater trustworthiness when under temptation to cheat; and their character preferences and social attitudes are more wholesome.

Bentley agrees, too, that in social attitudes the gifted are above average. They take part in much the same activities as others, but usually get more recognition. He warns, however, "That while desirable moral traits seem to be correlated with intelligence, there have been many cases where clever minds untrained in a moral society have become a social menace" (47:264). These children, then, need to develop a sense of integrity and wholesomeness in meeting life situations.

Of course, all gifted children do not possess all these traits, nor are these characteristics exclusively of the gifted. Neither does it mean that every child who exhibits these traits is necessarily an outstandingly bright child. It can be said, though, that the gifted child, in general, tends to have these characteristics (56:5). Witty also warns his readers that gifted children do not fall into a single pattern but into an infinite variety of patterns. Among the gifted, one could find almost any type

of behavior problem, social maladjustment, or physical handicap. The only difference would be that they would be fewer in number (63:25).

III. HOW IDENTIFIED

Just as there are various types of giftedness, there must also be various methods by which giftedness is determined. Grace Munson says, "To find the gifted we must use all known dependable tools of child study, use them as early as possible, use them systematically through the whole school period, and use them on all children (45:3). It is generally agreed that identifying the gifted child as early in his life as possible is highly desirable.

Identification at home. Parents, first of all, should recognize potentialities for unusual leadership. Thus, they should become thoroughly acquainted with reliable literature on child development so as to recognize deviation from typical patterns of growth.

Willard Abraham lists some hints which may indicate a gifted child in the home (1:24). The gifted child is usually very alert. He often walks and talks earlier. His speech usually develops sooner than that of the average child, and he soon acquires a vocabulary that is unusual for a small child. There is a chance he will learn to read

before entering school. He is somewhat above average for his age in height, weight, physique, and physical endurance.

In a report on gifted children in California, Terman and Oden (63:15) state that early indications of superior intelligence most often noted by parents are quick understanding, insatiable curiosity, extensive information, retentive memory, large vocabulary, and unusual interest in such things as number relations, atlases, and encyclopedias.

Parents are sometimes led astray, however, in judging their children's intelligence because they are biased, make inaccurate observations, and fail to keep in mind the total child population (12:6).

Identification at school. The methods for a comprehensive analysis at school will, no doubt, vary with the school system, but the leaders need to be aware of the kind of identification program that ideally meets the needs of the situation.

It is the classroom teacher's obligation to put into operation every known means of discovering the gifted child. The following are certain necessary steps that can be taken.

First is the setting up and maintaining of cumulative pupil records. This record should begin as soon as a child enters school and should continue throughout his career. It should contain identifying information such as name,

address, date of birth, family background and history, record of siblings, parent's occupation and marital status, facts about personal appearance and health, results of all tests and the grades. Space should be provided for anecdotal records and any other activities and interests. With this information should be a health card. All this information must be accurate and objective.

Second is the examination of the child's developmental history as recorded by the parents. This would have to be secured through a parent teacher conference, and should contain such information as age when the child sat up alone, walked, talked, comments on physical growth, date of first tooth, and child health history. It would also be a great help if notations were made of any unusual performance and at what age it was made (61:14).

Third is the administering and interpreting tests. One of the best devices is the intelligence test. Results of these group tests might indicate which children were likely to fall in the gifted class. Then individual intelligence tests should be given those youngsters. They should be retested in two years. Professor Hollingworth regarded an individual intelligence scale in the hands of a competent psychologist as the most important single tool for identification of the gifted. She wrote the following:

The only way to identify these gifted youngsters with certainty is to apply reliable and valid intelligence tests. Nothing can take the place of such tests in making a census of the gifted. Mental tests will predict with a high degree of reliability future scholastic success. They are, therefore, tests of educability (33:90).

Professor Hollingworth also considered mental tests the most democratic procedure yet devised for selecting the gifted for special provisions. She felt that there was a greater equality of opportunity because financial status of the parents, in the past, had been the sole determiner of who should receive special educational advantages (63:50).

Achievement tests also help pick out gifted children. These tests should be administered every year to see if these children are working to full capacity. Reading tests, too, sometimes give helpful information. It is fairly common to expect the gifted child to be at least two grades ahead in reading (37:14).

Tests of special aptitudes sometimes help to supplement these other tests. They may reveal abilities of which neither the teacher nor the child was aware. Several tests are available in such areas as music, art, manual dexterity, and mechanical ability. They must, though, be evaluated in the light of other evidences of giftedness (3:10). Witty thinks the value of these tests depends upon the background and training of those who interpret them (63:15).

Personality factors are very often considered in identifying gifted pupils. Personality tests range from the checklist variety to the projective type. The latter should be used only by a trained psychologist. These tests are used diagnostically in counseling and guidance and planning of the program for the gifted (48:174).

An experienced school psychologist is the best person to estimate each child's intelligence and achievement and to explore his aptitudes and personality characteristics. If a school system doesn't offer this service, a child might be referred to a child study clinic (16:34).

Fourth is observation by teachers of the performance of children showing superior potentials in many different situations. Teachers' observations should not be limited to the classroom, but should include as well the playground, home, and the community. Abraham gives this warning, however:

Teachers can be fooled by (1) the child who does good work, and who is assumed to be bright because his age is not taken into consideration (that work at his age may actually combine to indicate that he's mentally sluggish); (2) the child whose vocabulary or glibness may pull the wool over the teacher's eyes; (3) the one who combines traits of friendliness, taste, and attitudes which have particular appeal for certain adults. Obedience and no need for corrective discipline are occasional substitutes for brightness in the minds of some (1:34-35).

Many other professional people also come into contact with gifted children and can be helpful in identification.

They are doctors, pediatricians, school nurses, public health nurses, social workers, recreational leaders, and church leaders. Any of these people might realize a child's giftedness.

Fifth is gaining insight into the child's social-personal development. These observations do not identify the gifted child in the same sense as the objective tests, but they do to some extent indicate the level of the child's social and emotional maturity. The following suggestions have been taken from a list of child-study techniques for identifying the gifted child's behavior (56:13-16):

1. The sociogram is one means that might give a clue as to the group's acceptance or rejection. It will also show his feelings with members of his group. The only limitation, of course, is that it doesn't reveal why the children choose as they do. The sociometric interview or a private conversation might give the information.

2. The child might be asked to keep a diary over a certain period. He should put emphasis on his activities, people he was with, time spent, and where it took place--such as his home, a friend's home, or a park.

3. The child might write an autobiography. This could be in his own style or may follow an outline made by the teacher. A questionnaire might be used. The teacher

will get an idea of the child's values and the events he considers most important.

4. A topic might be assigned for themes to express a child's feeling and opinion on such topics as "My Best Friend," "What Person I Would Like to Be Like," "Things to Improve About Myself," and "Things I Would Like to Change at Home."

5. A teacher could get a child's reaction to pictures or stories dealing with child relations with adults or boy-girl relations. The youngster would answer questions given by the teacher such as "What would you do if this happened to you?" or "How would you feel if you were this girl or this boy?"

6. The child might be given a chance to make three wishes stating what he would like most to have or to do.

Interest shown by superior children in their reading preferences and hobbies sometimes indicates giftedness. In a number of cases where gifted children were studied, their preferences in reading covered a wider range of interest. They frequently turned to adult books and magazines and less to comics. They spent more time reading. Activities also showed a greater range of interest (56:13-16).

The gifted child, then, may be identified through observation of outstanding characteristics. These observations are supplemented by various types of tests. The

earlier this child is identified the better. Professor Hollingworth contended that:

The problems of the gifted pertain chiefly to the period before twelve years of age, for the problems of the gifted person tend to be less numerous as he grows older and can use his intelligence independently in gaining control of his own life (33:102).

Identification should be continuous. Some child may develop abilities as he grows older, some teacher may have overlooked him, or sometimes the abilities have not shown up until later. Identification is important at all grade levels.

CHAPTER IV

PLACEMENT OF THE GIFTED CHILD

During the past several years many reports have appeared in professional magazines regarding provisions for the education of the gifted child. A variety of ideas have been presented. It is generally recognized that no one method of placement could most effectively meet the needs of all gifted children. The three methods most commonly employed in working with the gifted are acceleration, segregation, and enrichment.

I. ACCELERATION

One of the means used to make school work challenging and stimulating to the gifted child is acceleration. Some ways acceleration might be accomplished are by grade skipping, by early admission to first grade, by college work taken during high school years, and by fewer school vacations.

There has been much controversy on the issue of acceleration. The most common arguments in favor of acceleration are that it improves the child's motivation, prevents him from developing habits of dawdling, and gives him the advantage of associating with classmates who are more nearly his equal in mental ability. Thus, he profits

from keener intellectual competition and from having more associates who can share his interests (51:20). Acceleration also allows him to complete his professional training earlier. This time saved can be a benefit to society as well as to the individual because his productive years are increased and the educational cost is reduced (20:50).

On the other side, it is argued that grade skipping aggravates the child's problem of social adjustment, promotes bookishness, is dangerous to physical and mental health, and often leaves gaps in the child's academic knowledge and skills because the gifted child dislikes routine and rarely takes time to master such materials (51:21).

The handicaps have, perhaps, been best described by Professor Hollingworth:

If the child be accelerated in the regular classes to the point where he can function with real interest intellectually, he will be out of harmony with the classroom situation in other important respects. A child of eight years graded with twelve-year-olds is out of his depth socially and physically, though able to do intellectual work as well as they can. Classroom furniture will not be adapted to his size; he will always be regarded as a nuisance in athletic contests; it will be doubtful how to treat him at class parties; his handwriting will be poor and slow in contrast with that of his much older classmates; he will be emotionally immature in comparison with those about him (63:52).

Terman's opinion is as follows:

If the gifted child's intellectual welfare were the sole criterion, then promotion ought to be based primarily in mental age, since it is the factor that chiefly determines the intellectual difficulty of the school tasks difficult enough to command his attention

and respect. The data here reviewed indicate that the risk of maladjustment is less than is commonly believed (60:279-280).

He concludes:

No universal law can be laid down governing the amount of acceleration desirable. Some gifted children are less injured by acceleration of three or four years than others by one or two years...It is our opinion that children of a 135 I. Q. or higher should be promoted sufficiently to permit college entrance by the age of seventeen at the latest, and that a majority in a group would be better off to enter college at sixteen (60:281).

J. W. Trusler recommends acceleration in moderate degree for pupils of 125 I. Q. and above (62:16-17).

These ideas are not shared by school administrators, however. In a survey made by the Research Division of the National Education Association, only fifteen per cent of the junior and senior high principals believed that pupils of superior ability should complete the school curriculum in less time than the average (63:260).

The practice of acceleration raises questions which require more extensive research before conclusions can be drawn. At what level should a child be accelerated? How are these children chosen? What part does the parent play? How can one be sure the child gets what he needs in the new room (1:78-79)?

"Few people," says Abraham, "advocate acceleration alone, without enrichment or other ways of working with the gifted. As a sole solution it is a thin answer to a very

complicated problem" (1:78-79).

Where the individual is relatively mature physically, has good habits, is emotionally stable, and has made outstanding academic achievement, acceleration of one year at the elementary level might be recommended. If a child is accelerated during adolescence he may find adjustment complicated by the additional problems adolescence brings.

Those who work with children must remember that acceleration is not the only solution to the problem of curriculum adjustment for the gifted.

II. SEGREGATION

Some large school systems segregate gifted children. Special classes have been created for them, apart from the regular group. In these classes may be found pupils of high I. Q. or of similar achievement in subject or grade. Each group is fairly homogeneous according to a chosen criterion.

There are several types of special classes. One kind is that of complete segregation for all subjects, both academic and non-academic. The other is a modified plan. Instead of being placed in a classroom by themselves, gifted children of each grade level are placed in one classroom, but with other children. In this class the gifted form the top group. Still others have partial

segregation for academic subjects only, or perhaps for only a few academic subjects.

Recognizing a need for special attention to gifted children, Cleveland, Ohio, began a program of special classes in 1920. This program is known as the Major Work Program. It has been in continuous operation since that time. Beginning with only one class in the elementary, it has grown to include more than thirty classes at the present time (3:412-413).

Special classes were started at Hunter College, New York, in 1940. At the present time there are twenty two classes for gifted elementary children. In addition to the one regular teacher for each class, there are five full time teachers. All of the teachers have Master's degrees (27:40).

An entire school is set aside in Baltimore for gifted junior high students. Allentown, Pennsylvania, brings superior students from all over the city to one school for "opportunity classes" (50:44).

Colfax School in Pittsburg, Pennsylvania, operates a partial segregation plan to provide for its mentally superior children. The entire school, from the third grade on, is on the platoon plan. It is described by Pregler as a workshop plan (53:243). The plan provides the maximum opportunity for group acceptance of the individual child.

It encourages the child to work to capacity, and makes it possible for superior children to work with and be challenged by their mental peers. Furthermore, it has enabled the school to develop special methods and materials well suited to the teaching of gifted children.

In partial segregation classes the children are segregated in skill subjects and mixed with their regular home room in the special subjects. Thus, the gifted child still remains a part of the regular class. It is just as if a child in a typical school would go to orchestra practice. The segregation is for half of the day.

There are proponents for and against segregation and homogeneous groupings. Some hold that it is undemocratic, giving opportunities to the gifted and not to others. Worcester answers this by saying that a democratic society selects special people for the band, the school paper, and the football team. So long as the selection is based upon ability and no one is excluded because of race, social or economic status, or other facts not related to ability, there can be no basis to the charge that selected classes are undemocratic (67:47).

Heck also argues that if democracy is defined as equality of opportunity, where an attempt is made to adjust the school program to the abilities and the interests of each child, then perhaps the special class is a more

democratic way of dealing with gifted children than is the customary procedure (26:383).

Others say it establishes cliques and tends to conceit. Goddard, who spent two days each week visiting Cleveland's special classes for gifted children over a five year period, reports, "It doesn't happen. Children in regular classrooms who are given excellent ratings with very little effort are the ones who become conceited" (26:383).

Worcester, too, believes an attitude of superiority develops in a mixed class. Here the gifted child is always right. He knows the answer and the others know he does. Often he is resented by the other class members (70:48). The superior child in a special class is given tasks sufficiently difficult to demand his full energies and engage his resources to the limit (55:266).

To the argument that the slower child is stimulated by the bright child, Goddard insists that the slower child is not stimulated but frightened (23:27). Heck points out that there is no conclusive evidence that the average and slow child learn from the gifted. It is assumed that the class will progress more rapidly when the more gifted children are in the group. When these children are removed from the group, the rate of progress is much slower, more explanations must be given, and more repetition is

required. This probably means that the group is proceeding more understandingly than before (26:384).

To the critics that say fewer leaders will be developed, Heck replies that some of the gifted children, due to jealousy, were anything but leaders. The special class give such a child a much greater opportunity for the development of leadership. Each member of the group may be a leader. Each child in his own special field may be a real leader. When the brighter children are removed, some who were suppressed come to the front (26:384).

Special classes, Goddard believes, are the best method by which the school can keep the child happily employed with work that is educative, both because it is interesting to him and because it challenges his capabilities by calling for his best efforts continuously (23:1).

A strong argument for special classes is also presented by Carroll:

. . . Each child must receive the education best suited to his abilities and needs. To force upon all an education planned for average children, regardless of individual intellectual capacity, is to grant special privileges to the central group and to deny to the bright and dull their rights (12:253).

A larger and greater variety of learning experiences can be had by students in a homogeneously superior class, partly because less time is required for drill and remedial instruction. These activities give ample opportunities for a child to learn more about his field of

special interests and to express his particular talent (20:53).

Curriculum can be developed for them and acceleration provided without skipping grades, reminds Gertrude Hildreth. This will also prepare them for special class work at high school level (27:255).

So the discussion goes, with exactly opposite points of view expressed. Willard Abraham says the evidence is not clear enough to point toward an unchangeable answer for all time and for all children. He says that for the present it is necessary that decisions be based on the school, the teachers, the administrators, the children, and the parents (1:73).

III. ENRICHMENT

"Enrichment," say Cutts and Mosely, "may be defined as the substitution of beneficial learning for needless repetition or harmful idleness" (16:37). Everything that goes under the name of enrichment is not beneficial. It consists of the assignment of more intensive work and of more comprehensive tasks which challenge the child's interests and capabilities. It involves a broadening of the curriculum--and would require habits of thoroughness, mastery, and originality in all types of activities.

The content, methods, and activities should be selected in terms of strengths and weaknesses peculiar to the gifted. The emphasis should be placed on quality rather than quantity. With much less time upon routine work, provisions need to be made for more independent work.

The ways teachers provide for gifted children can be classed under eight main headings:

1. Ability grouping within the class.
2. Letting a child work at his own level and own speed.
3. Special assignments that are not just more of the same but challenge the child's ingenuity.
4. Projects essentially like reports, reviews, and term papers. It can be a group project with the gifted branching off on something more difficult. Individual projects range from independent reading to elaborate experiments and construction work.
5. Free choice on completion of regular work.
6. Individual work with the teacher on completion of regular work.
7. Enrichment takes the form of broadening knowledge into other fields by adding courses such as creative writing, foreign language, and typing.
8. One of the most difficult, but most satisfying ways, is the unit method. Co-operatively planned projects

and problems have a place for children of varying abilities and interests.

The advantages for enrichment, as listed by Abraham are (1:90-91):

1. This type of program prepares them early to live with others. They work together for the benefit of all and develop their abilities to lead and to follow.

2. Enrichment in classrooms can be used in any size school and in any kind of community.

3. It is the least expensive and most realistic of all. No special administrative arrangements are necessary. So many of the activities benefit all the children.

4. Slower children are stimulated to do better than if they work only with children on their own level.

5. There is no such thing as a completely homogeneous classroom, so children with varied ability might just as well be kept together and the program adapted to their differences.

His summarization of arguments cited against enrichment are:

1. The slower child is not stimulated by the gifted child, but actually frustrated.

2. The gifted child is not stimulated when his classmates consist exclusively of those who do not share his ideas and ambitions.

3. He will not be encouraged to do his best. He will develop undesirable habits such as smugness and laziness.

4. The gifted are rewarded by neglect. The other children get more help. The gifted become bored. Forcing an average education on all penalizes youngsters on both ends and benefits only those in the middle.

5. Much of the enrichment practices consist of more of the same or just busy work.

6. Administrator may demand strict conformity to a narrow course of study. A teacher is not able to put into practice all her enrichment ideas.

An older statement on enrichment gives this conclusion:

Who can say what will be the ultimate value of all this extra work carried on for 10 or 12 years of the elementary and high school course? It is easy to see the mass of information that is being acquired; but we must not let that blind us to the vastly more important and valuable acquisition of habits of thinking, of studying, of investigating, of judging, of seeing both sides of a question, of stating problems as well as solving them; and finally, the development of habits of self-control and of carrying responsibility. These are the rich enrichments (23:102).

An enrichment program is less difficult to carry on if there is adequate material available, small classes, a flexible curriculum, and a versatile teacher. It would also help if arrangements can be made to permit gifted children to use shops, laboratories, and other facilities

on a part time basis. All these conditions might not be possible in any one school, but effort should be made to provide the best program possible by using all available skills and resources (56:46-47).

These principles of enrichment can be applied in either a homogeneous or a heterogeneous class. Difficulties should not keep teachers from making every effort to individualize their teaching as fully as they can.

IV. DESCRIPTION OF SPECIAL PROGRAMS

Portland's program for the gifted. The Portland, Oregon, public school system, in collaboration with Reed College, undertook a five year study to develop a better educational program for its children of superior intellectual ability and special talent. The study, financed in part by grants from the Fund for the Advancement of Education of the Ford Foundation, was started in July, 1952.

Teachers were made more aware of these children as a result of a comprehensive identification program. This program, carried out in all grades, made use of teacher observations, standardized tests of intelligence and achievement, and specially devised tests of talents in art, music, creative writing, creative dramatics, creative dance, social leadership, and mechanical talent.

Portland's program is an example of how heterogeneous grouping can provide opportunities for gifted children. The homeroom is the center for instruction and an effort is made to organize learning situations around a certain purpose or theme. This unit teaching method lends itself better to the varied interests and capacities of children. The gifted will read more difficult material, and those gifted in mathematics will contribute to the statistical data. But all will contribute to the common theme or unit.

A further provision, however, has been the establishing of special interest classes. These special classes for such subjects as French, Spanish, science, dramatics, art, and creative writing meet for one period two to five times a week. The interests and abilities of students and the availability of teachers decide what classes are offered in each of the elementary schools. A typical example:

A total of ten seventh graders from three homeroom classes, with arithmetic ability two or more years advanced, meet twice weekly with a teacher who has advanced training in mathematics. The teacher is released from her fourth grade homeroom by an additional half-time teacher. This special course includes arithmetic aids and shortcuts, practical applications of arithmetic, income taxes, biographies of mathematicians, and orientation to algebra and geometry. Each child presents an individual project at the end of the year (14:9).

In the high schools, the special classes have sometimes been arranged as special sections of regular classes

and, in some cases, as supplementary to the regular curriculum. They are more like seminar classes, with no prescribed course of study. The problems grow out of group interest.

Longview's program for the gifted. Longview's program for the gifted was started in 1954 at the request of a group of people in the Washington community. The need had been made more evident by the experiments being carried on in Portland.

For the first two years the program was limited to a few children from two grade levels. The school board and the administration felt that procedures and results could be more accurately appraised with a group of that size.

During September and October an identification program was started. It used standardized mental tests, academic achievement tests, and teacher evaluation for the fifth and sixth grades of six Longview elementary schools. The top fifteen fifth and sixth graders were taken. A schedule was set up for each elementary school. Two meetings, varying from one-half hour to forty five minutes, were held each week. The children were excused from their regular classrooms and met together in groups of two and three. They missed out on work that could be omitted or made up in other ways.

The enrichment, highly individualized, was based on the children's interests and topics that had been discussed in the regular classroom. The enrichment projects included vocabulary enrichment, writing of autobiographies, widening pleasure reading, study of the origin of number systems and numerals, and making models and science displays.

During the second year, interest classes were begun. Teachers within each building were invited to act as special interest group leaders if they had the necessary training. Fifteen teachers acted in this capacity. While they were away from their regular classes, a substitute teacher was provided on a regular basis. Three other teachers working from the Special Education Department also had special groups. At least three types of classes operated during the year. The areas were science, creative writing, creative drama, art, arithmetic, and foreign language.

In order to achieve higher selectivity, the identification procedure was revised at the beginning of the third year.

Long Beach's program for the gifted. In 1951 the superintendent of Long Beach, California, appointed a committee to prepare a workable procedure for the identification of the very superior pupils. Later on the committee was asked to set up subcommittees for the purpose of

proposing an educational program for the very superior pupil.

The committee, feeling that no one method of instruction was the complete answer, suggested the following practices:

1. In the elementary grades a pupil should not be accelerated more than one year. To be accelerated a pupil must be relatively mature physically and in good health. He must also have developed satisfactorily in the area of personal-social relationships and have made superior achievement records. If acceleration was indicated, there must be a conference with parent and child. Care had to be taken to insure that the pupil learned all processes involved in the grade skipped. Both the sending and the receiving teacher had to accept this responsibility.

2. In the elementary schools it was recommended that heterogeneous grouping be continued with one possible exception. In large schools the very superior pupils of one grade are to be placed in one room where they form a part or all of the top group of that room. In small schools they are to transfer the gifted to a school where there are other very superior pupils.

In the junior and senior high schools, where some degree of ability grouping already existed, it was suggested that they continue grouping the very superior

students in academic sections but not in nonacademic sections.

3. All school personnel were urged to recognize that whatever method was used, enrichment was a necessity. Guides containing specific and workable suggestions for enrichment were prepared for elementary, junior high, and senior high teachers by teacher workshops.

4. The committee felt that most very superior pupils are self reliant enough to enable them to do some work with a minimum of direct supervision. It was suggested that projects be set up on which they could work by themselves or in small groups. The committee suggested that junior pupils be excused from their regular classes, at specified intervals, to go to the library, to the shop, or to a music, art, or science room to do individual work.

Those who are entrusted with the educational guidance of the gifted have a tremendous responsibility. Whether in an unselected or special group, the gifted child should develop to his maximum potentiality. Those responsible for his education are faced with the task of providing guidance to fit his needs. They must provide a flexible course of study with varied activities to help develop the child to his fullest. The fields must be opened so the gifted child will be stimulated to create, to solve problems, to express himself, and to work. The gifted must be trained for leadership.

Most educators, like Pregler (52:242), realize that there are advantages and disadvantages to each method of providing for the gifted child. Furthermore, she believes, as do others, that the method should be determined by what is best for the child.

CHAPTER V

ENRICHMENT PROCEDURES FOR A FIFTH GRADE CLASSROOM

Enrichment is a teaching procedure for stimulating gifted children. It should allow each student to delve more deeply into his special interest field, to give creative expression to his particular talent, and also to guide him in exploring a wide variety of both intellectual and non-intellectual activities (20:59). This philosophy applies to all children, but a greater difference in scope and depth of experience should be provided for the bright child. This enrichment program should emphasize social adjustment, a sense of responsibility, and unselfish qualities.

But before a teacher can begin an effective program, he will have to set the stage by enlivening his classroom, his materials, and his teaching techniques. The classroom must be stimulating. There should be a room library, a magazine corner kept up to date, a bulletin board, a record player and records, a typewriter, a microscope, and a science kit. If the classroom is rich in areas of interest, it will provoke activities and provide ideas. In addition, there must be available a variety of work materials and creative media. Once the activity is under way, it will require materials specifically connected with it.

A check of the teacher's attitudes is the next step in helping these children. These attitudes will affect his teaching techniques. Is he interested in gifted children? Is he concerned about their problems? Is it all right with him if the child can sometimes think faster than he does and can sometimes figure out a better way of doing a job? If the teacher can answer in the affirmative, he is probably ready to enrich the education of the gifted children (31:13).

If the gifted child has only the time left at the end of class periods for his extra work, the teacher must be sure that books and materials are near at hand. At times the teacher will know by tests or some other means that one or several youngsters can be excused from regular work for a whole period or for a sequence of periods. If the teacher ordinarily works with small groups of pupils of like ability, this can be worked out easily. They can get started with the help of the teacher, and then when she works with the slower ones, the gifted can work on their own.

A fifth grade teacher writes:

The last chapter in our social studies book was on Mexico. The average group took a week and a half reading it orally and discussing it. The bright group read the material in two days and then used the remaining periods for independent projects: the volcanoes of Mexico (complete with maps, diagrams, and a smoking model of Popocatepetl); costumes, with colored paintings;

the history of Mexico, in far more detail than the book gives it; festival days; and topography, with a plaster-of-Paris model. When the slow group had finished, the bright group gave oral reports to the whole class and explained the construction work. All were given a test based on the text to be sure no one skipped anything (16:50).

This type of program calls for much planning. The teacher must plan day by day. If the project stretches over a considerable length of time, written plans should be set down by the pupil and checked by the teacher. These must include objectives, list of books and materials needed, where they can be found, and names of people who might be of assistance. The gifted child should be encouraged to keep a notebook of his plans, experiments, and results.

Caution must be exercised in the kind and amount of additional work assigned to the gifted. Are the activities designed to develop the powers of the gifted or are they wasteful of time and energy? If there is a special assignment, it must be an activity which appeals to the child's imagination and insight, for these are often the gifts to be nurtured and developed. Norma Cutts suggests others points to be considered (16:46): Will this extra assignment satisfy any of the special needs the gifted child might have; for example, will he gain recognition from the group? Will it help him to work with a group if he is shy, or to work independently if he lacks initiative? Would the time spent on the activity be better spent on fundamentals?

Does it relate to the curriculum? In other words:

Will it serve the general objectives of enrichment: challenge; breadth; depth; increase of skills; love of learning; practice in learning, thinking, and sharing; initiative; and creativity (16:46)?

The teacher must evaluate the program frequently. He must keep asking questions about the children's progress, be on the lookout for ways to encourage the children, improve the program, and keep the standards high. In all contacts with the gifted child, the teacher must remember that he is trying to teach this gifted child to help himself.

The remainder of this chapter consists of general methods of enrichment and enrichment suggestions which have functioned in programs for gifted children. It must be remembered that whatever has been effective and successful in one classroom can be carried over to another classroom in principle only. "Adaption, rather than adoption is probably the key to learning from others" (44:11).

Added subjects. One sure way of enriching the gifted child's knowledge is to give him instruction in an extra subject. A great many elementary schools are giving some instruction in French, Spanish, shop, typing, and cooking.

Many elementary teachers do not know a foreign language, nor how to type or use a saw. But a variety of

solutions have been tried by teachers and principals. The most usual way is for an exchange of pupils. The bright pupil is excused from his regular classroom to go to the shop or to a higher grade where the particular subject is being taught. Some have used the help of a qualified parent, either as a volunteer or as a paid worker. Other schools have a traveling teacher or supervisor who gives instruction in this particular subject. He would be similar to a special art or music teacher. If these solutions were not feasible, classroom teachers could be given instruction through workshops or summer sessions. Some could even teach themselves. Graded courses of study containing actual subject matter, suggested techniques, and audio-visual helps are available (2:48).

Foreign language instruction is given to all the children in many schools. As in other classes, the gifted learn faster and learn more. The other pupils soon understand why the gifted are working on a language. The gifted children may become interested in the people who use the language and search out a great deal of information about that country.

Some schools make typewriters available, with a manual of self-instruction. Typing teachers might disapprove, and yet so often a bright student takes a straight liberal arts course and never has a chance to learn typing

unless he teaches himself (16:57).

The choice of extra courses should be made with a view to both breadth and depth. The Education Policy Commission says:

Every gifted pupil should learn one foreign language to the point of reading mastery, advanced mathematics through the calculus, if possible, and more history and social studies than are normally included in the curriculum (20:63).

Stimulation of hobbies and collections. Making collections and pursuing hobbies help increase the gifted's knowledge and skills. Stamp collecting is almost certain to enrich his knowledge of history and geography.

One value of collections is that they are often an outlet for gifted children in small schools where their resources are limited. It is the teacher's job, nevertheless, to help the gifted distinguish between those collections which stimulate him to read and acquire further knowledge and those that do not stimulate intellectual development (37:81).

Hobby clubs could be formed. They could be made up of members of different grades. Clubs would give a chance to share with others and to give and receive criticism.

Extra class activities. While all children need to know how to plan, how to co-operate with others, and how to work on committees, the gifted child often finds in

these activities an outlet for his creativeness and originality. He can help to plan and organize assembly programs or help plan the program as an outcome of a unit.

Resourceful teachers will use these gifted children many times.

Field trips and excursions. The gifted have much to contribute to the planning of class excursions and much to gain from them. They can suggest places to go, help make arrangements, study up on background materials, and write reports. Some excursions can be made only by a small committee or individuals who have a special interest.

Enrichment in reading and literature. It is not enough to get the gifted to read. They need constant help and understanding guidance if they are to develop their full capacities through wide choice of books. This means that the gifted youngsters must be led to make their choices.

Not only does the teacher need to know what reading material is suitable for gifted children, but also how it can be made available to them. Teachers should know what reading material is available in their own school and at local libraries. Many parents are happy to buy books for their children. The teacher should encourage this and also guide them in their choices.

The gifted should also be encouraged to establish the habit of reading book reviews. Book reviews not only give guidance in their choice of reading but also keep them informed of new ideas and information. A teacher or school could subscribe to Elementary English, which has a section for the review of children's books. And likewise, since many teacher's professional magazines contain reviews, they, too, should be made available (37:89).

When possible, the gifted should devote much time to reading in the school or public library, where, under the guidance of the librarian, they can extend their field of general knowledge.

Paul Witty (66:180) reports a challenging reading program in which the teacher and librarian co-operated in developing a challenging reading program for superior pupils in a fifth and sixth grade. The pupils met with the librarian once each week for a forty minute period. Attractive displays of books in particular fields suggested by the teacher were arranged. Under the guidance of the librarian, the pupils examined these books and made selections to be read at home. During the reading periods for the remainder of the week, the pupils read books of their own choice. At the end of each week, they met for an informal discussion of their reading. Related experiences were introduced through the use of films, maps, and charts.

After eight months, the attainment of the experimental group was compared with that of a control group made up of superior pupils who had received only regular classroom instruction in reading. The experimental group made greater gains on tests of reading, and developed, it appeared, a greater degree of literary appreciation and taste.

Another interesting attempt to encourage advanced reading by gifted pupils was reported by Margaret Gregory and William McLaughlin (25:203). Twenty one superior children accepted an invitation to take part in a miniature "Great Books" course on the junior high level. They read mostly non fiction books intended for adults. The teachers and principal involved found that children do respond to the invitation to read books far beyond their level. There was no credit for the class, no reports, nor any grades or awards. The reading was done on their own outside of school. Twice a month during the school day they met with these teachers and had an informal discussion. This same idea could be adapted on a lower level.

Some suggested enrichment activities for reading are:

1. The gifted could help prepare lists of stories and articles of common interest to the group.
2. They could read orally to the group when answering questions. Other forms of oral reading could include

jokes and anecdotes, excerpts from current materials, provide verification for statements, parts of a play, and favorite poems.

3. Arranging books on display is another activity for the gifted.

4. They could take over the story telling in one of the lower grades.

5. The writer has had the brighter students look up background information before the presentation of the weekly Bold Journey program on television. They shared this with the class before watching the program.

Oral reading of literature also helps the gifted child. He should be given the opportunity to prepare for oral reading before the period begins. He then should give a brief introduction to his selection and a few comments as to content. It is his task to make the selection interesting and understandable. His reading of the selection may be followed by questions and discussion (61:36).

The gifted child needs to be encouraged to read more deeply into the literature studied by the class. If the class is studying a poem, he should be stimulated to read more poems by the same author and find out something about the author's life and writings. If the class is reading some of Kipling's Just So Stories, he might be encouraged to read Kim or Captain Courageous (37:91).

The reading of the classics offers more opportunity to the superior reader. The teacher may read some to the whole class. She may read parts, and the suggestions might lead the gifted to read the rest for themselves. Since gifted children are usually avid readers, a list of classics should be available for their use. By reading classics with other books, they may develop a taste for good literature which will remain with them when they are adults.

Enrichment in science. According to recent news reports, America is falling behind in the battle of the scientists. The tremendous technological advance of recent years has been responsible for this demand for scientists. If America hopes to maintain her position among world powers, she is going to have to step up her production of scientists (17:40).

This is the challenge that faces the classroom teachers in the schools today. Not every teacher, of course, feels prepared to teach science. But the teacher does not have to be a scientist or even have much scientific knowledge to be able to give considerable help to potential scientists in the elementary schools. Even though science has never really interested the teacher, he must be careful not to kill any spark of scientific interest a child may reveal. He must be free to admit his own lack of knowledge but be enthusiastic about the child's interest.

DeHaan and Kough advise:

Try to inject the same enthusiasm into your science teaching that you put into the teaching of your favorite subject. As in so many other fields of learning, much of science is caught, not taught (17:41).

The teacher must give the entire class a taste of the way a scientist works. But the teacher must go beyond the normal class activities to provide worth-while help for youngsters with special abilities. They must be exposed to the methods and attitudes of scientists until they think in a scientific way. This will require a certain amount of teacher-pupil planning. Nine ways teachers can help those gifted scientifically have been suggested by DeHaan and Kough (17:44-46).

First, the teacher must try to get the pupil to work on his own. This way a little of the teacher's time will go a long way. They must start with the child's own interests. He can be quizzed on the activities he most enjoys or his favorite reading material. These interests may suggest possibilities for a scientific activity that will intrigue him.

Second, the teacher must try to give a scientific twist to his chief interest. His job is to relate this interest to science in some meaningful way. For example, a child might express a great interest in swimming. This in itself could become a scientific study, but maybe he can

also become interested in fish. There might be some gaps here that can be filled. This kind of planning could help get away from the textbook and motivate the gifted student to go it alone.

Third, encourage the gifted to look for material of a scientific nature in the library.

Fourth, the gifted must be encouraged to experiment. When he begins to do this, he has taken a big stride forward in developing a scientific method of his own. Point out to him that seldom does a true scientist accept only one experiment as conclusive. He must repeat his experiment under the same and varying conditions. His experiments might be the source of further questions he wants to answer. His investigations could go on indefinitely.

Fifth, the teacher must maintain a high standard of achievement. The child must be able to excel in graph reading, interpreting tables, and must develop a science vocabulary. The teacher must insist that experiments be done well and reported accurately.

Sixth, he must be given success experiences. He must be allowed to report to the class, serve as a laboratory assistant, or demonstrate experiments before a P.T.A. group or some other group. Perhaps the experiment or research may tie in with some study being carried on at another grade level. The youngster might be able to share

with that class. This feeling of importance whets his appetite for science. He will want to dig all the harder.

Seventh, the teacher can get others to help stimulate the children's scientific interest. It might be the scientist who lives in their community and can take an interest in a gifted pupil. It might be the science teacher in the school system.

Eighth, the children must be acquainted with opportunities outside the school. If there are contests or science fairs which foster scientific ability, encourage them to enter.

Ninth, the families of these gifted children should be visited. Some of these children get very little encouragement from their family. They should understand the ability their youngster has. The teacher could give them suggestions for enrichment.

To suggest ways in which some of the gifted child's activities might be integrated with the regular classroom program, two units of a fifth grade science program carried on by the writer as outlined below. The column on the left represents general concepts to be taught; special activities that might be carried on by the gifted child are shown on the right.

WHAT MAKES THINGS MOVE

General Concepts

Force is produced by energy.

Muscles have energy.

Greatest force in the world is gravity.

Moving water has force.

Moving air has force.

Steam has force, because water takes more space when it changes to steam.

Activities for the Gifted

Make a plumb line.

Do experiments connected with gravity.

Read Earth's Nearest Neighbor.

Look up Sir Issac Newton.

Read story Earth and Sky.

Make a chart about gravity.

Construct a water wheel. Explain it to class.

Demonstrate how water wheel is used to turn another wheel.

Collect pictures and fix up bulletin board to show how energy is used to propel machines (as wind for a windmill).

Draw diagrams of cylinder and pistons in Story of Steam. Explain what is happening in the diagram.

Read about steam engines in What's Inside of Engines.

Gasoline and oil have force when they change to a gas and explode.

Electric current has energy that makes a force which moves things.

Make a steam turbine. Explain how it works. Help in What's Inside of Engines.

Make simple diagram of the gasoline engine. Explain what is happening.

Make simple drawings and explanation of a jet engine and what is inside of a rocket.

Find out how people move other things by exploding other materials besides gas. (Blocks of stone from quarries and bullets shot from guns).

Read Let's Look Inside Your House.

Make a bulb light showing complete circuit.

Make a simple switch.

Find out the conductors of electricity.

Make own electric light.

Find out how electricity moves things.

Find out what kind of things it can move.

Find out what happens when two wires touch.

Make a simple fuse.

Find out why a short circuit is dangerous.

Find out where our electric current comes from.

Find out what form of energy is used to produce our electric current.

Write stories to tell how the world would be different if electric current, steam, gasoline and moving air did not have force to make things move.

SIMPLE MACHINES

General Concepts

A machine is a device that makes work easier.

Levers.

All levers have three parts.

The nearer the fulcrum is to the weight, the easier it is to lift the weight.

Pulleys.

Pulley systems help us trade distance for force.

Activities for the Gifted

Collect pictures of early and modern machines.

Make reports on these machines.

Do experiments to show how levers work and how they make work easier.

Make an exhibit showing examples of levers.

Collect pictures showing people using levers.

Make a chart showing diagrams of levers. Mark where the force, weight, and fulcrum are.

Make a fixed pulley and show how it is used.

Make a movable pulley and show how it is used.

More strands of rope the less force it takes.

Show how a block and tackle makes work easier.

Wheel and Axle.

Construct a windlass.

Make a wheel and axle machine.

Another teacher's idea when studying electricity was to have the gifted make individual electric questioner games. The gifted youngster has ample opportunity to make up a series of questions, thus constantly searching for new material, and the slower students are constantly being challenged by new information (44:27).

If the class is studying sound, the gifted child might find out how phonographs produce sound, how the school's public address system works, interview a member of a builder's supply firm regarding sound proofing material and get samples, or visit a broadcasting studio to examine sound proofing construction and report back to class, or make a xylophone (56:63).

The teacher of children with scientific ability can do a good job of teaching science with a few materials. If he is able to get more and better equipment, his work may be easier but not necessarily more successful.

Enrichment for social studies. The Social Studies, more than most areas of study, offers possibilities for enriching the curriculum for the gifted. But these

possibilities do depend on what method the teacher employs to meet the needs of his gifted pupils and how meaningful he can make their learnings.

Here, as in other fields, the unit method provides unlimited possibilities for enriching the curriculum for the gifted since he may do research far afield from that of his classmates. In like manner, the teacher must assess whether or not the child's development is better promoted by time spent on one activity rather than on another one.

Some suggested enrichment activities for Social Studies are as follows:

1. The teacher can select a dozen or more books that present supplementary material on the current social studies unit. The gifted skim each book, noting pages on which pertinent information can be found. After they have done this, they meet with the teacher to pool their findings. These are then made available to the entire class. They can also be encouraged to find other books in the library on the topic (44:30).

2. After completing a section on the United States or a state or a city, one of the gifted may volunteer to be the expert on that area. He can give a brief report each week on important happenings in his section. He could bring in news clippings, postcards, or letters from his section, name famous people from that section, and introduce any other interesting material he can find (44:32).

3. The gifted can organize the putting together of a kit of materials which are being studied and exchange for a similar kit from some other area of the country. This should be preceded by exchanges of letters with the school.

4. He could rewrite social studies material from text and other materials using lower level reading and explain ideas in simple terms. This would help the slow learners.

Enrichment in arithmetic. The gifted children must learn to use the fundamental operations of arithmetic with accuracy, understanding, and a reasonable amount of speed. Most gifted youngsters, however, are impatient with drill and routine work. When they gain insight into mathematical principles, they may be unwilling to do the practice necessary to thoroughly establish the ability to use it. The teacher will need to help them see the necessity of doing this. Because they usually do need less drill than the average student, the teacher must not resort to giving them extra problems to keep them busy, nor must he encroach on the arithmetic of the next higher grade.

Many arithmetic texts provide extra problems to interest and challenge the bright child. Other texts have specific suggestions to teachers for widening the knowledge and skills of the gifted pupil. It is suggested that

teachers use these problems as designated in the basic text, remembering that they are sample enrichment problems used most adequately when they can be adapted to current classroom experience. It is also suggested that there be on hand additional texts containing problems stimulating to the more advanced student (54:27).

A collection of material for enrichment of arithmetic has been published by Herbert Spitzer. Many of the exercises call for particularly careful thinking and unusual insight into mathematical processes. On the other hand, he says the text book is the main guide to instruction and warns that children and teachers often become so involved in the enrichment that they lose sight of the main stream of the grade's work (58:28-29).

Enrichment in creative arts. The enrichment activities should include opportunities for creative expression by those gifted in writing, art, drama, dance, and music. A teacher does not have to be endowed with a talent to work effectively with talented children. "Creativeness cannot be taught," explains Maurice Applegate. "It can only be released and guided" (11:51).

The person who is receptive and understanding and expresses genuine appreciation is the best teacher. The child's creation must be accepted without imposing adult

standards. His writing must be shared, his pictures put up, or his songs sung. Praise and recognition are essential (56:60).

In helping the artistically gifted child, Marian Schefele has this to say:

The teacher must take time to appreciate with the children--such everyday things as clouds racing across the sky, trees changing color, smells and sounds that go by unnoticed. Children must have experiences, feelings, and thoughts about which to paint (56:60).

A variety of media must be available. This leads to exploration. A teacher must know what is expected in this area for normal children so he may recognize giftedness in talented children. Many references are available in professional libraries.

The artistically gifted child needs much encouragement. "Encourage them to draw, draw, draw," suggest DeHaan and Kough (17:64). They say there is no substitution for continual practice.

The teacher needs to discuss this artistic ability with their parents. The parents should be warned against pushing the child too far or too fast and also the effects of showing no interest at all (17:64).

Children who are musically talented should be given many opportunities to spend more time at their music, to do more things with it, and to study different phases of it. The following ideas may be of help to teachers of those talented in music (17:92-94).

1. They might analyze and report on musical compositions. They could even run a commentary on a piece that is being played. They could describe to the rest of the class what was going on. They can point out the different instruments being played and what the composer is trying to share.

2. They can read and report on stories of operas and lives of famous musicians.

3. They should play one or more musical instruments.

Creative dramatics should be for every youngster, but those talented in dramatics need further experiences. The teacher should help them find good plays, biographies of actors and actresses, and books on stagecraft. Their parents need to be informed of their talent. If there is a community little theater available, they should be referred to it (17:87).

Teachers will find many ways to help children gifted in writing. Creative writing is a personal experience put into words. The writing is done solely for the enjoyment, pleasure, and satisfaction it gives the writer and those who read or hear it. This helps his personality to develop.

This type of writing is best carried on in a classroom atmosphere free of criticism and filled with respect for individuality. The important thing is that the child puts down in his own language what he thinks and feels.

The child is making a purely personal recording to be shared or privately enjoyed (11:2).

The youngster gifted in writing needs the basic stimulation provided for the class as a whole. In addition he needs extra guidance and encouragement. The teacher must give him opportunities to write, appreciate what he writes, if it is well done, and encourage him to do more writing. The gifted child should schedule a given amount of time each day for writing. It could be in the form of a diary, letter writing, poetry, or some other form. There is no substitute for continual practice (17:75).

The teacher should confer with the parents of this child. He should help them to see that by supplying their child with good books, by appreciating what he does and by refraining from criticism, they can give him the help he needs (17:75).

Following is a list of suggestions a teacher could use to help stimulate creative writing (17:76-79):

1. Many opportunities should be provided for story telling. This time could be at the beginning of the day or at the end of the day.
2. A teacher may need to help create characters and plots. It might be a continued story that goes on from week to week. The teacher may need to create the first one.
3. The child should be encouraged to keep notebooks of his stories.

4. A lead off sentence might be given from which they can develop stories.

5. They might take a character out of a story they are familiar with, such as Cinderella or Robin Hood, and transport the character into the twentieth century. The story could tell his or her reactions to modern life.

6. The process could be reversed and the child could imagine himself in Never, Never Land, in Old England, or on the moon. He would write of his experiences there.

7. Read an interesting story and stop short of the climax and let the child finish it.

8. They could write stories in connection with Social Studies. It could be a Pilgrim boy's diary or letters between cousins during the Civil War. They could imagine they are news reporters at the laying of the Trans-continental Railroad, or a drummer boy at Valley Forge. They could be crossing the country in a pioneer wagon.

9. They could invent fairy tales or fanciful myths about why it rains or where thunder comes from.

10. A newspaper story could be written. It could be dated 1869, and the news items and editorials would refer to the events of that time.

Daily program. As explained earlier in the chapter, integration of the gifted child's activities and experiences

with those of the class calls for careful planning by the teacher. The gifted may need to join the rest of the class for certain skills in language and arithmetic, but when and if he utilizes these skills effectively, he can no longer benefit from practice. He should be able to devote his time to some independent project. To help illustrate how a teacher might do this, Marian Scheifele made out the suggested schedule given below (56:57-59). (The program might vary from day to day because of the activities carried on).

Class Activities and Experiences

Gifted Child's Activities and Experiences

Social Studies

Planning.

Participation in planning. Summarizing, recording class plans, committee personnel, materials needed.

Work period.

Research (Utilizing material of higher reading level); making a model; preparing a report, dialogue, or script; conducting a science experiment being carried on independently or with a committee but contributing to the total class activity.

Evaluation.

Participation (in evaluation the same as planning).

Reading

Silent reading with discussion and

Participation with top reading group of his reading

related independent work activities.

warrants this

And Or

Independent reading in area of special interest (science, biography, history, poetry).

Physical Education

Games, play self-testing activities.

Participation with classmates. Individual instruction in specific game skills, if needed.

Arithmetic

Thought problems and practice of skills.

Individual work at his level to develop or refine skills needed for independent and group projects-- computing percentage, measuring areas, volume, distance, time, and studying metric systems; drill as needed in computation skills; free time for pursuit of special interests.

Language Arts

Spelling, oral and written language skills, handwriting.

Individual work at his level to develop or refine skills needed for independent and group projects-- compiling his own dictionary, studying techniques of specific kinds of writing; study to attain achievement commensurate with his grade level, if needed; free time for pursuit of special interests.

Creative Expression

Music, Art, Rhythms,
Creative Writing.

Developing individual
projects in these areas;
participating with the
class; joining another
class or group to pursue
special interests.

Finally, when a teacher sets out to help a gifted student learn all that is called for in the curriculum and as much more as he can absorb with profit and without overwork, the two will think of many ways to achieve the purpose. As one teacher has said, "The sky is the limit" (16:68).

CHAPTER VI

SUMMARY

Although education of the gifted is as old as education itself, it has varied from time to time, from place to place. In some groups, opportunities for apprentice work and special training were given for the more able and promising youth. In others, preparation was made for specific responsibilities.

Two factors significant in promoting interest for the gifted in this country were the appearance of tests for measuring intelligence and the development of child study techniques developed by Lewis M. Terman and his associates.

After the large-scale use of these intelligence tests, several psychologists were attracted to the extreme cases. One of these psychologists was Leta Stetter Hollingworth. She worked at first with the slow learner and later with the very bright and gifted. She and Terman identified groups of gifted children and assembled data concerning their physical development, their social status, and their educational attainment. Their research indicated that the gifted child, instead of being the social and emotional misfit that he was once thought to be, was superior in personal adjustment, superior to his classmates in size, strength, and general health. In all investigations,

extreme rapidity of learning seemed to be characteristic of the gifted child. Yet he was seldom accelerated or offered an enriched program of study. Studies showed that the schools were making little provision for gifted children.

Nevertheless, at the present time, the focus is on the gifted child. Numerous writers contend that many school children have been endowed with exceptionally high intelligence qualities and other capabilities that make them potential leaders. It is further contended that a great many of these gifted children never have the opportunity to develop these special abilities.

The responsibility of identifying and providing for these special needs lies with the schools, for it is the philosophy of public education that the needs of all our children should be provided for. Many schools are taking on this responsibility. They agree that the gifted should be identified early. They realize the importance of his abilities being cultivated at the earliest possible age. Gifted children who work at their capacities are less likely to develop personality and behavior problems and poor work habits.

Certain personal characteristics reflect giftedness, even in the very young: creativity, love of books, quickness in learning, and curiosity about environment. When a child enters school he should be tested with mental tests,

aptitude tests, interest tests, and reading tests. Other factors that must also be taken into consideration are his physical, emotional, and social characteristics, and his pattern of behavior day by day.

After identifying the gifted, the problem is what to do with them. Many types and variations of plans have been tried and experimented with, but most efforts have fallen into one of the following categories: acceleration, segregation, enrichment, or a combination of such.

Acceleration has been attempted by early entrance to school, skipping grades, by doing two grades in a year, and by placing children in rapid advancement classes. Available evidence would suggest that only limited acceleration is advisable and only on an individual basis. Acceleration would take place after a careful study of factors such as physical development, health, mental age, intelligence quotient, achievement, and social development.

Segregation is a method whereby youngsters are segregated from their slower classmates through special classes, special schools, and various other types of homogeneous groupings. The disadvantage of this procedure in the elementary schools is that it cannot be used in small schools or small communities. There is not likely to be a sufficient number of gifted children nor special teachers.

The third and most popular method is enrichment. This usually means keeping the child with his age group in a regular classroom and broadening the program. Enrichment is also necessary in segregation and acceleration. The danger of enrichment lies in the possibility of its becoming only busy work.

Enriching the curriculum in regular classes is of importance because so many gifted pupils live in relatively small cities and towns. Still more, gifted pupils are to be found in cities where special programs have not yet been made available. For that reason the writer attempted to determine some teaching procedures to be used in working with the gifted child in a regular classroom.

It is very evident that there has been a reawakening of interest in providing for the gifted in regular classrooms. Article after article and book after book presented activities for the gifted in the elementary and secondary schools. It is generally conceded, too, that one desirable means of providing for the gifted within the heterogeneous class is through differentiated assignments.

No single plan can be recommended generally to care for the gifted, since different types of programs are being used successfully in various communities. On the other hand, the writer firmly believes that the gifted child, being neglected, is in need of special attention. Studies

have shown that American youth do not always make full use of their abilities. A challenge faces classroom teachers today. As Samuel Laycock has so ably put it (37:164):

The future Einsteins, Pasteurs, Winston Churchills, Shakespeares, Mozarts, and Leonardo da Vincis are in our schools today. The teacher does mold the nation's future. Having a share in developing the potentialities of gifted children is the greatest reward any teacher can hope to achieve. Hindering the flowering of a gifted child's genius is, on the other hand, the greatest possible evidence of failure for any teacher.

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