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EDUCATIONAL PROGRAM GUIDELINES FOR ACADEMICALLY TALENTED STUDENTS IN ELEMENTARY SCHOOLS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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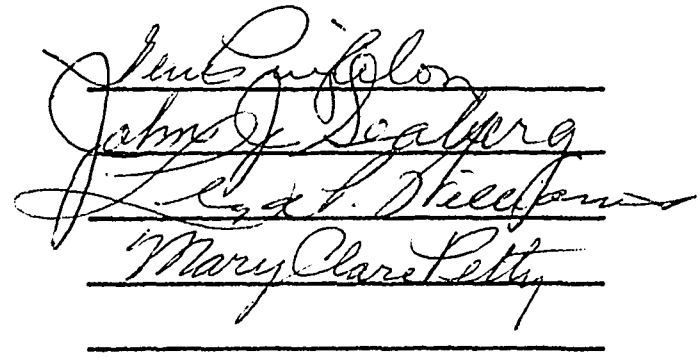
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Norman, Oklahoma

1976

EDUCATIONAL PROGRAM GUIDELINES FOR ACADEMICALLY TALENTED STUDENTS IN ELEMENTARY SCHOOLS

APPROVED BY



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EDUCATIONAL PROGRAM GUIDELINES FOR ACADEMICALLY TALENTED STUDENTS IN ELEMENTARY SCHOOLS

CHAPTER I

THE PROBLEM AND ORGANIZATION OF THE STUDY

Introduction

Educational programs for the academically talented students have been operational since the nineteenth century in America. "In 1868 the first systematic plan for providing special educational programs for gifted in the public school setting was implemented."[1] Since that time, educational provisions have reached only a few of these students with high academic potential. Bruner claimed that "the top quarter of public school students, from which we must draw intellectual leadership in the next generation is perhaps the group most neglected by our schools in the recent past."[2] Lyon concluded: "Only about one of every

---

[1]Joseph P. Rice, The Gifted Developing Total Talent (Springfield, Ill.: Charles C. Thomas, 1970), p. 7, (hereafter cited as Rice, The Gifted).

[2]Jerome S. Bruner, The Process of Education (Cambridge, Mass.: Howard University Press, 1960; Vintage Books, 1963), p. 10.

25 gifted students is enrolled in a program appropriate to his or her special abilities."[3]

Gallagher noted an infusion of new concern and interest in programs for the talented students.

> Little attention has been drawn to the long-range problem of neglecting the national reservoir of talent, to the slow and steady erosion of national talent and human resources, until recently.
>
> In the Elementary and Secondary Education Act of 1975 there exists a special provision to provide modest resources for educational purposes that the Congress felt were of special priority. Among these priorities were the education of gifted children.[4]

Historical Provisions for the Academically Talented

Historical precedence indicating differentiated programs for these talented students was not a recent innovation on the educational scene. Rice described one notable event in the history of these programs which laid the foundations for a scientific pursuit of the subject of capabilities in man.

> In 1869, the publication of Galton's Hereditary Genius amplified the differences among men with reference to their intellectual endowment and familial heritage. This volume excited strong

---

[3]Harold C. Lyon, Jr., The Other Minority, A Preliminary Report on United States Office of Education's Effort to Help Our Most Promising Children (Washington, D.C.: United States Office of Education, 1972), p. 1.

[4]James J. Gallagher, Teaching the Gifted Child, 2d ed. (Boston: Allyn & Bacon, 1975), pp. 303-304.

> interest in individual differences and the development of modern psychological and statistical concepts of deviation.[5]

As early as 1779, Jefferson recommended special educational provisions and settings for students of more able learning capacity over the entire range of schooling as part of his "School Plan for Virginia."[6]

In the 1920's, Terman began his impressive Stanford studies of genius. Terman's findings in this intensive study of talented individuals revealed the intellectual superiority of this group. These students were also physically, socially, and morally advanced, and in general, possessed a wide variety of interests and skills.[7]

Gowan and Demos described the depression era of the 1930's which created budget retrenchments and cessation of programs the public considered as frills. These authors stated that this latency period continued until the intervention of World War II when a demand existed for trained technicians, dawning of the atomic age, and the post war arms race created a need for talent.[8] Adler

---

[5]Rice, The Gifted, p. 7.

[6]Merle Curti, The Social Ideas of American Education (Totawa, New Jersey: Litchfield, Adams & Co., 1968), p. 3.

[7]Lewis Terman et al, Genetic Studies of Genius. Vol I: Mental and Physical Traits of a Thousand Gifted Children (Palo Alto, Calif.: Stanford University Press, 1925), p. v.

[8]John Curtis Gowan and George D. Demos, Education and Guidance of the Ablest (Springfield, Ill.: Charles C. Thomas, 1964), p. 13.

contended that World War II involvement brought a utilitarian philosophy toward these programs because the nation was in need of highly trained individuals in the technical areas.[9]

Historically, a wavering commitment to programs for the academically talented has been a result of pressures operating within the society rather than sound educational practices.

> The launching of Sputnik in 1957 triggered a national concern over the Soviet Union's superiority in space technology and, apparently, in science education. The uproar produced the National Defense Education Act of 1958, a massive Federal aid-to-education program originally designed to help the schools improve instruction in chemistry, physics, mathematics, biology, and economics. . . . NDEA was aimed mainly at our most able students.
>
> During the 1960's, as we matched and later exceeded the Soviets in space exploration, the national panic about the caliber of our 'best' schools ebbed, and other concerns took over the educational spotlight--most notably, the civil rights movement. American educational priorities shifted from the most able students to the least fortunate . . . Promising programs vanished . . . The American temper tends to impatience, to quick enthusiasms and to a readiness to drop projects that do not show fast results.[10]

The high and low of educational priorities for these efforts were explained by one writer.

---

[9]Manfred Adler, "Cycles of Interest in the Gifted Student," Clearing House 41 (April, 1967):476-478.

[10]Lyon, The Other Minority, p. 9.

> . . . education for the gifted is like the weather--it comes and goes with the winds of public interest . . . As a result, they have been transitory, idiosyncratic and fundamentalistic, not generalizable or continuously acceptable.[11]

Terman urged a deeper more searching look toward far ranging goals for program development.

> What I propose is that education of the gifted shall be planned not merely to satisfy the felt needs of a given time, but also to prepare the way for future appreciation of needs not yet recognized. By encouraging the development of all kinds of special talent and of aptitude for every kind of leadership and scholarly achievement, the Zeitgeist itself would, in time, be molded along more liberal lines and to the appreciation of whatever enlarges the spirit of man.[12]

Marland noted recent responsibilities, activities, and plans of the United States government for the talented students.

> During 1971-72, the Federal government, through the U.S. Office of Education, committed itself to a new and extremely important area of concern--the education of the gifted child. It is a significant commitment . . .
>
> We may not always be able to show high achievement, but the education community's concern for the gifted is beginning to show itself. As society's expectations rise, slowly but noticeably, the schools respond . . .
>
> We are not starting with the over-promising fervor and big budget that prompted revolutionary

---

[11]Maurice F. Freehill, Education of the Gifted and Talented: A Role for the Private Sector, ed. Jane Case Williams (Washington, D.C.: Office for the Gifted and Talented, 1974), p. 3.

[12]Lewis M. Terman, Education for the Gifted (Chicago, Ill.: University of Chicago Press, 1957), p. 17.

> programs in science and mathematics following the flight of Sputnik or that were accorded programs in compensatory education. But we hope we are starting to deal with the problems faced by the gifted child in a more realistic manner and with a more enlightened and receptive citizenery.[13]

Gallagher discussed some of the objectives of the recent Elementary and Secondary Education Act of 1975 which pertained to the academically talented programs.

> . . . Some funds have thus become available to accomplish some of the following objectives noted in the legislation:
>
> Establish a National Clearinghouse on Gifted and Talented Children and Youth to obtain and disseminate information to the public on gifted children and youth.
>
> Provide grants to each of the states to aid them in the initiation, expansion and improvement of programs for the education of gifted from preschool to secondary school levels.
>
> Provide grants to a program of training personnel who will be teachers, supervisors, or leadership personnel for educational programs for gifted children and youth.
>
> Support research, demonstration, dissemination, etc., specifically devoted to improving educational programs for the gifted.[14]

Several states have attempted to provide appropriate educational programs for these students by providing services such as the following:

---

[13]Sidney P. Marland, Jr., "Our Gifted and Talented Children--A Priceless National Resource," Intellect (October, 1972):16-18.

[14]Gallagher, Teaching the Gifted Child, pp. 303-304.

> . . . 10 states have a full-time person responsible for gifted and talented education. Our study indicated that 75% of all the children received special education for the gifted are concentrated in these 10 states.[15]

The federal Office for the Gifted and Talented has attempted to assist states in their efforts to provide programs for the talented. As part of these efforts, this office has been:

> . . . seeking to encourage the strengthening of State Departments of Education in this field, so that every State--and not just the present ten--have at least one full-time staff member assigned to dealing with programs for the gifted and talented. Such programs are eligible for support through Titles I, III, and V of the Elementary and Secondary Education Act, as provided through Public Law 91-230.[16]

Gallagher looked at the influence of federal, state, and local level educational resources insofar as these programs were concerned.

> It is increasingly obvious that more and more of the resources for education will come from the state and federal level and less from the local level. Thus, the central resources for initiating and keeping programs for gifted and talented students in effect will probably rely as much on decisions made in the state capital and in the national capital as in the local school board.[17]

---

[15]Marland, "Our Gifted and Talented Children," p. 18.

[16]Harold C. Lyon, Jr., "Talent Down the Drain," American Education (October, 1972):3.

[17]Gallagher, Teaching the Gifted Child, p. 295.

Statement of the Problem

This study was an attempt to content-analyze each selected state plan[18] to determine:

> what each plan from the four selected states contained pertaining to the development of academically talented programs,
>
> what relationship there was between the program proposed and the research base from which each of the selected plans originated,
>
> to apply the interdependent program variables to the four state plans and incorporate the results of this application into guidelines for a program for students with high cognitive-academic potential at the elementary school level.

Purpose of the Study

This research was designed to provide a workable, but flexible, set of guidelines for the building of a total educational program for the academically talented students extending through the elementary grades.

Significance of the Study

The need for educational programs for the academically talented students in terms of individual rights as well as societal needs has given particular significance to this study. "Technological and societal complexities are being generated at such a rate that every individual,

---

[18]State plans for this study were California, Connecticut, Georgia, and Illinois. They were described in the Four Case Studies in the U.S. Commissioner of Education's, Education of the Gifted and Talented, Report to the Sub-committee on Education, U.S. Senate (Washington, D.C.: Office of Education, 1972), p. 51.

including those who are gifted, needs to develop his or her own paideia, his or her forward thrust for personal and societal advancement."[19]

From the standpoint of the individual child, Rice noted:

> As part of our democratic heritage, we believe that all children should be educated. . . . We are painfully aware of the vast intellectual differences among children.[20]

Kaplan claimed that "identification of the differences and specialities among students mandates provisions which develop these characteristics."[21]

Realizing that degrees of intellectual activity existed, Marland also urged that educational opportunities be provided to meet these differences rather than verbalized principles.

> We give ardent lip service to individualizing instruction. We have come a small distance in reaching out to the uncommon child who is handicapped. It is no less a valid public policy, consistent with individualization to reach out to the uncommon child who is very able.[22]

---

[19]William Vassar, Educating the Ablest, eds., John Curtis Gowan and E. Paul Torrance (Itasca, Ill.: F. E. Peacock Publishers, 1971), p. 277.

[20]Rice, The Gifted, p. 3.

[21]Sandra N. Kaplan, Providing Programs for the Gifted and Talented (Ventura, Calif.: Ventura County Superintendent of Schools, 1974), p. 8.

[22]Sidney P. Marland, Jr., "Send Up More Sputniks," paper presented at the Nationwide Invitational Conference on the Education of the Gifted, Albany, New York, 31 May 1973.

Shertzer explored the question of how to provide effective programs within the framework of the schools.

> There is no longer a question as to whether or not schools should search for superior students and provide programs that will challenge their intelligence. Now the question is that of how such programs can be most effective in the expanding framework of existing school organizations.[23]

Lyon contended that ineffective communications among researchers and practitioners have withheld valuable information in improving education for the talented.

> The necessary first step in improving education for the gifted and talented is to find out what works, what doesn't, and why. A considerable amount of valuable information has already been produced by researchers and practitioners, but is not centrally available. Some good basic research has not been applied.[24]

Considering the limited number of states which have a full time professional working with these programs, Lyon saw the possibility of sharing what has been gained in program information to other staffs working in this area.

> . . . While the sum total of these State resources is much less than necessary for an adequate, nationwide approach to improving education of the gifted, it can in a sense be multiplied through intelligent coordination of information, leadership training, and experience sharing.[25]

---

[23]Bruce Shertzer, ed., Working With Superior Students (Chicago, Ill.: Science Research Associates, 1960), p. 2.

[24]Lyon, The Other Minority, p. 6.

[25]Ibid., p. 5.

Design of the Study

The methodology was to content-analyze plans from the four State Departments of Education which have systematically attacked problems relating to special programs for academically talented students. These selected plans have come from states which were listed in the Four Case Studies[26] in the United States Office of Education's study on provisions for the talented at the various state levels. The four states were California, Connecticut, Georgia, and Illinois.

Phase One

The first phase of the study was to review the literature pertaining to the development of programs for the academically talented students. Data gleaned from reviewing the literature revealed interdependent program variables that were judged by experts to contribute to the effectiveness of a program.

Phase Two

Each of the four selected state plans was then subjected to a systematic review of the stages through which each program had progressed. This was an attempt to determine the relationship between the state program as proposed in the adopted plan and the research basis from which each originated.

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[26]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 51.

Phase Three

The four selected state plans were then analyzed to yield information on the differing solutions utilized by these four states in meeting the educational needs of the academically talented students. Specifically, it attempted to identify what data were found in each of the four state plans concerning the interdependent program variables identified in the literature. These program variables were considered as essentials in planning successful programs for the academically talented students.

Phase Four

Data gathered from these phases were synthesized to support the inclusion of suggested guidelines according to findings concerning the interdependent program variables in the selected state plans, and the review of selected literature. These guidelines were for the designing of academically talented programs in the elementary school.

Assumptions of the Study

The following assumptions were considered in this study.

> Analysis of the selected state plans would reveal programs for the academically talented students to have certain identifiable characteristics.
>
> A study of such characteristics would uncover features of these differential educational programs that provided useful information in the building of guidelines for programs being initiated or improved within a given school system.

States providing appropriate leadership personnel and/or financial aid tended to enhance and encourage qualitatively-differentiated education for the academically talented students.

Delimitation of the Study

Data collected and the conclusions drawn from this study were limited by review of the selected literature and the state plans obtained from the four states participating in this study.

Any conclusions reached must be arrived at with an awareness of other definitions of academically talented which may be equally appropriate.

Operational Definitions

For the purpose of this study, the terms "academically talented" were used, except where quoted material emphasized another term. For the sake of brevity, reference to "the talented" was sometimes used.

The definition of academically talented for use in this study was established as follows:

> In 1969, Congress passed Public Law 91-230 . . . and directed the U.S. Commissioner of Education to investigate the adequacy of present programs for the gifted and to recommend necessary improvements. As one aspect of this study, the Office of Education surveyed 239 experts in the field to arrive at a common definition of giftedness. This was the result:
>
> Gifted and talented children are those identified by professionally qualified persons, who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society.

"High performance," the definition went on, might be manifested in any or a combination of these areas: 1) general intellectual ability; 2) specific academic aptitude; 3) creative or productive thinking; 4) leadership ability; 5) visual and performing arts; and 6) psychomotor ability.[27]

This study placed an emphasis on programs for elementary students with high intellectual ability.

For the purpose of this study, further definitions were as follows:

acceleration--a process of advancing through the usual pattern of grades or subject matter at a rate that exceeds normal.[28]

administrative design--organizational patterns which become the setting for the learning environment that accommodates the needs of the talented.[29]

elementary school--an educational system which serves students who fall within the traditional kindergarten through the sixth or eighth grade.

enrichment--experiences which replace, supplement, or extend learnings as the basis for each administrative design.[30]

grouping--provisions which facilitate the student's access to learning opportunities.[31]

---

[27]Lyon, The Other Minority, pp. 3-4.

[28]Kaplan, Providing Programs for the Gifted and Talented, p. 46.

[29]Florida, State Department of Education, Florida's State Resource Manual for Gifted Child Education (1974), p. 12.

[30]Kaplan, Providing Programs for the Gifted and Talented, p. 46.

[31]Ibid.

interdependent program variables--essential characteristics of academically talented programs which were considered interdependent upon other program variables.

Organization of the Study

Chapter I consisted of a general introduction to the study. Included was an outline of the problem and description of the procedures used in the study.

Chapter II contained a review of selected literature and research relating to the unique profile of academically talented students and the differentiated qualities of such programs including interdependent program variables.

Chapter III presented the sequential program development revealed in each state's program. The chapter pertained to the research framework from which each plan originated.

Chapter IV presented the four state plans with a close look at each interdependent program variable.

Chapter V included data from each state plan which was synthesized in relation to the adopted plan and program variables.

Chapter VI discussed findings and conclusions along with implications of the study from which guidelines were provided for building an educational program for the academically talented students through the elementary grades.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of the literature centered on an array of essential characteristics for use in planning successful programs for the academically talented students. Renzulli and Ward explained their model which could be used as a guide for program planning and development as well as evaluation.

> The Diagnostic and Evaluative Scales for Differential Education for the Gifted (DESDEG) . . . consists of a set of fifteen 'Program Requirements' (PRs) that were judged by a group of experts to be important characteristics of comprehensive programs for the gifted. The PRs are organized around five 'Key Features' which represent general areas of consideration in program development and implementation . . .

The key features and the program requirements of the DESDEG model were listed as follows:

Key Feature A: Philosophy and Objectives
- Program Requirement 1: Existence and Adequacy of a Document
- Program Requirement 2: Application of the Document

Key Feature B: Student Identification and Placement
Program Requirement 3: Validity of Conception and Adequacy of Procedures
Program Requirement 4: Appropriateness of Relationship Between Capacity and Curriculum

Key Feature C: The Curriculum

Program Requirement 5: Relevance of Conception
Program Requirement 6: Comprehensiveness
Program Requirement 7: Articulation
Program Requirement 8: Adequacy of Instructional Facilities

Key Feature D: The Teacher
Program Requirement 9: Selection
Program Requirement 10: Training

Key Feature E: Program Organization and Operation
Program Requirement 11: General Staff Orientation
Program Requirement 12: Administrative Responsibility and Leadership
Program Requirement 13: Functional Adequacy of the Organization
Program Requirement 14: Financial Allocation
Program Requirement 15: Provision for Evaluation

The program requirements may be thought of as statements of certain principles about education for the gifted that are found in the literature, and which depict ideally-conceived educational practices for exceptionally able students. They do not pertain exclusively to any given pattern of program organization, but rather attempt to embrace excellent practices whatever the nature of the administrative structure of the program; practices that can and should be inaugurated in view of the behavioral potential of superior students.[32]

Rice viewed the teaching-learning situation for the talented students as a system of interdependent variables. The five variables identified by Rice were:

---

[32]Joseph S. Renzulli and Virgil Ward, A Guidebook for Evaluating Programs for the Gifted and Talented (California: Ventura County Superintendent of Schools), pp. 27-28.

1. Diagnosis of students--Personal and social assessment of teachers and pupils.

2. Environments--school and community settings.

3. Methods--Teaching strategies, tactics, and techniques.

4. Mechanisms--Teacher aids, supplies and equipment.

5. Evaluation--Data feedback for program evaluation and modification.[33]

Vassar listed program elements that were:

. . . necessary for professional educators to consider in designing and developing a reasonable program for the gifted and talented.

1. Need(s) for the programs in the school districts

2. Philosophy and objectives of the Special Program

   a. long-range goals

   b. short-range goals

3. Type(s) of gifted and talented to be served

4. Screening and identification criteria and processes for each group of gifted and talented

5. Professional and lay staff to serve such children and youth

6. Physical facilities and transportation

7. Inservice Training of special and general staff in the school district

8. Differentiated learning and thinking experiences and activities to meet the specific needs of those children and youth identified

---

[33]Rice, The Gifted, pp. 300-302.

9. Administrative design

10. Community resources--human and physical

11. Special funding--local, state, private, Federal

12. Evaluation--program, process, etc.

13. Role of the parent

14. Special consultative services

15. Articulation of Special Programs with General Education[34]

From these essential program characteristics, the following interdependent program variables were abstracted.

A. Rationale including objectives and philosophical foundations for supporting differentiated programs for these students.

B. Identification and placement of candidates.

C. Staff patterns including administrative, instructional, and supportive personnel along with preservice and inservice training programs.

D. Administrative strategies which involved organizational arrangements, differentiated curricular modifications, assessment procedures, instructional facilities and materials, financial allocation, and communication channels.

E. Administrative evaluation.

---

[34]William G. Vassar, Designing, Developing and Implementing Programs for the Gifted and Talented (Connecticut: State Department of Education, 1973), pp. 9-13.

Rationale

Early investigators in the nature of educational opportunities for the talented students contributed to the present understandings of these students and the importance of meeting their needs.

> Early studies by Yoder in 1894, by Terman beginning in 1904, and by Katherine Dolbear in 1912 initiated the understandings of the gifted and their behavior and values as known today.[35]

As early as 1927, Jensen reported an era of experimental programs that pursued a search for solutions in educational provisions for talented children and youth.[36]

DeHaan and Havighurst described the sporadic interest in the education of the talented students before 1930:

> . . . it was definitely a minor interest. . . . The emphasis on American elementary schools and to a lesser degree in secondary schools between 1900 and 1930 was on numbers. Quality did not suffer, but it did not improve very much, either. There was not much emphasis on the development of special abilities, or on children with intellectual superiority. Nevertheless, the fundamental work was being done on which the recent programs for educating the gifted were to be built.[37]

---

[35]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 82.

[36]Dortha W. Jensen, "Present Practices in Special Classes for the Gifted," Journal of Educational Research 15 (March, 1927):198-206.

[37]Robert F. DeHaan and Robert J. Havighurst, Educating Gifted Children (Illinois: University of Chicago Press, 1962), p. 10.

Witty identified later developments which played an integral role in leading to future educational opportunities for the talented.

> During the period 1945-1950, an interest in gifted pupils was reawakened and developed slowly. Educational organizations were established to serve this group and conferences were held to discuss needs and problems. . . . Appearing in 1947, L. M. Terman and Melita Oden's notable book The Gifted Child Grows Up also caused many educators to consider anew the nature and needs of gifted pupils. In 1950, the Educational Policies Commission (N.E.A.) published the monograph Education of the Gifted, showing the gifted child's need for improved opportunities. In 1951, the book The Gifted Child was published for the American Association for Gifted Children. These publications aided not only in the stimulation of research, but also in the initiation of more appropriate programs for gifted pupils in our schools . . .[38]

Restated for the exigencies of current program needs, Bryan emphasized the following:

> In the second half of the twentieth century, America must build educational programs that are appropriate . . . for the maximum use of intellectual potential. Just as their national progenitors found ways to provide educational programs to meet the needs of their times, so Americans today must examine anew the values and needs of society and adapt their educational system to the demands of the present and the future.[39]

Growing attention to the academically talented students in American education has been a combination of

---

[38]Paul Witty, "The Gifted Child in 1967," Gifted Child Quarterly 11 (Winter 1967):255.

[39]J. Ned Bryan, "A Rationale for Superior Student Programs," Working With Superior Students, ed. Bruce Shertzer (Chicago, Ill: Science Research Associates, 1960), pp. 15-16.

ideology and the reality of societal needs. "The ideology is the American dedication to the unique value of the individual and to the desirability of developing his abilities, whatever they are, along socially valuable lines."[40]

Programs for the academically talented have developed from a background of philosophical controversies. Recognizing the intellectual differences among students, Rice discussed the complicated historical issue by stating:

> The issue is further complicated because our society values, simultaneously, both unity and diversity. On the one hand, we support egalitarian cliches which presume that all students may benefit, more or less equally, from an equivalent general education. Contrariwise, we lament our national paucity of intellectuals. . . . Before effective programs for the talented are realized, we must somehow resolve these contradictions in our collective philosophical outlooks. . . .
>
> . . . it is difficult to envision egalitarian absolutism in the intellectual realms without sacrificing the gifts of the few to the overall cultural detriment of the many.[41]

Some authors have referred to these disparate philosophical outlooks as the "Jeffersonian-Jacksonian ideological dichotomy."[42] Trezise reviewed Thomas Jefferson's ideas of educating and encouraging the academically talented. Jefferson suggested a survey of the country in order

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[40]DeHaan and Havighurst, Educating Gifted Children, p. 1.

[41]Rice, The Gifted, p. 3.

[42]James Payne, "The Gifted," Behavior of Exceptional Children, ed. Norris G. Haring (Columbus, Ohio: Charles E. Merrill Publishing Co., 1974), p. 191.

to identify the talented and then pursue an effort to nurture these talents. Jefferson felt that all men should be given equality of opportunity. Trezise presented Andrew Jackson's views as:

> . . . all men regardless of experience or educational background should share equally in the leadership function . . . the man with ordinary commonsense should always be kept around to keep the intellectual and aristocratic elitist well rooted in reality and out of mischief . . . Jackson said in effect that all men <u>are</u> equal.[43]

Cutts and Mosley revealed attitudes of some teachers and administrators as thinking special attention and segregated classes for the talented were undemocratic. These authors noted that these educators ". . . think this smacks of class distinction . . ."[44] Freehill urged restraint in this debate because it has delayed progress in solving educational problems of the talented.[45]

Bryan based his ideas concerning educational provisions for these students on the following assumptions: "Individuals do differ; individual differences are observable and significant; and effective educational programs must take these differences into consideration."[46] Bruner's

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[43]R. L. Trezise, "Are the Gifted Coming Back?," <u>Phi Delta Kappan</u>, 1973, pp. 687-688.

[44]Norma E. Cutts and Nicholas Mosely, <u>Teaching the Bright and Gifted</u> (Inglewood Cliffs, New Jersey: Prentice-Hall, 1957), p. 18.

[45]Maurice F. Freehill, <u>Gifted Children--Their Psychology and Education</u> (New York: The Macmillan Co., 1961), p. 24.

[46]Bryan, "A Rationale for Superior Student Programs," p. 16.

conviction was: "Intellectual activity anywhere is the same, whether at the frontier of knowledge or in a third-grade classroom . . . The difference is in degree, not in kind."[47]

Hersey noted the absence of fixed norms and definite categories among younger members of society. He stated the following:

> Every child can be said to have potential talent of some degree and kind. The value of each individual to a democratic society lies precisely in his uniqueness, and in the extent to which he chooses to use, and is helped to use, his special talent, great or small for the common good. It is the task of educators in a democracy to discover, release, and foster in each individual those traits and abilities that make him unique, and to give him the desire to put to work in his own special way for the good of all.[48]

In releasing the unique potential of the academically talented student, Gold concluded:

> Fundamentally, we face the problem of individualizing to the point where each young person is helped to fulfill his own special promise. The school has the task of educating <u>all</u> children and at the same time discharging its responsibility to <u>each</u> child.[49]

Facts have been recently emerged from decades of study of educational provisions for the talented students

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[47]Bruner, <u>The Process of Education</u>, p. 14.

[48]John Hersey, <u>Intelligence, Choice and Consent</u> (New York: Woodrow Wilson Foundation, 1959), pp. 12-13.

[49]Milton J. Gold, <u>Education of the Intellectually Gifted</u> (Columbus: Charles E. Merrill Books, 1965), p. 23.

which have given more justifiable reasons for these programs.

> Terman's report has also revealed, and subsequent research confirmed, that many talented children underachieve, perform far less than their intellectual potential might suggest. These results put the lie to the comfortable, but false, notion that intellectual talented can survive all sorts of educational neglect and apathy.[50]

These challenges match educational practices with some of the basic precepts of a differential education for the talented as was emphasized by one group of educators.

> . . . educational institutions have shown that where giftedness is systematically sought after and encouraged, it flourishes both in quality and quantity . . . Through this logic, the participants in the Southern Regional Project for Education of Gifted are convinced that special education for the gifted is socially mandatory, psychologically sound, and educationally feasible.[51]

Kaplan discussed the philosophical framework for a successful program for the academically talented students. The framework suggested was one that:

> . . . supports the overall program design and lends purpose to its implementation . . . The philosophy which is created for the gifted and talented program should be exclusive in its appropriateness for the educational needs of these students. However, it must also be inclusive of the appropriate aspects of the

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[50]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 125.

[51]Southern Regional Education Board, The Gifted Student: A Manual for Program Improvement, A Report of the Southern Regional Project for Education of the Gifted (Atlanta: Southern Regional Board, 1962), p. 23.

general philosophy written by the parent institution for all students . . . It also contains the specific statements (objectives) which relate to the purposes, practices, and evaluation procedures involved in administering the program . . .

The weaving of personal and societal values with principles and theories of learning and psychology into a rationale which substantiates the purpose for a program becomes its philosophy.[52]

Identification and Placement of Candidates

Through the history of talented programs, Abraham contended that lack of clear communication and hiding behind ambiguous terminology have added to conflicts in the identification process.

Nor should we become involved in an argument over some kinds of words . . . like "superior," "gifted," or "exceptional." What difference does it make what the exact term is anyway? It is the idea that counts, the idea that evolves from a child whose contribution to our society is far less than his wonderful capacity would provide. That's the problem, and that's the child--and we can no longer afford to get bogged down in definitions and confusion.[53]

Rice rejected the need to coin phrases and invent terminologies in order to understand the real qualities of human attributes.

. . . various professional groups have invented classifications to describe disorders, gifts, or differences. Some classifications are confusing and misleading . . .

We must critically analyze existing definitions for human characteristics, reject term-

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[52]Kaplan, Providing Programs for the Gifted and Talented, pp. 26-27.

[53]Willard Abraham, Common Sense About Gifted Children (New York: Harper & Bros., 1958), p. 28.

> inology which is useless, and continually formulate new descriptions of human behavior based upon objective observation. When describing mental superiority, we must be particularly careful to distinguish potentiality from productivity.[54]

The broad concept of intelligence has given the basis for understanding the academically talented student. Gold discussed different and contradictory concepts of this term.

> Over the years a number of different and even contradictory concepts of intelligence have been developed. These concepts run the gamut from intelligence as a unitary factor, through intelligence as a group of basic mental abilities, to intelligence as a short-hand term for the layman, covering a multitude of varying, uncorrelated abilities that might better not be grouped under a single heading.[55]

Gowan and Demos elaborated further on the complex issue of describing what is meant by intelligence.

> This task would have seemed simple some years ago when intelligence was considered a unitary factor and defined as the important characteristic of personality. No matter how intelligence was defined, it was measured by verbal tests which relied heavily on factors which have later been identified as verbal cognitive memory components of mental ability.
>
> The early measurement people were concerned with the rapidity of development of something they called general intelligence . . . Binet referred to it as the intelligence and considered it a unitary trait. Terman defined it as the ability to do abstract thinking and validated his test by achievement.[56]

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[54]Rice, The Gifted Child, p. 28.

[55]Gold, Education of the Intellectually Gifted, p. 52.

[56]Gowan and Demos, Education and Guidance of the Ablest, p. 16.

Rice concluded that considerable controversy continues involving the nature of intelligence.

> Traditionally, psychologists have viewed intelligence as a single general factor. Beginning with Spearman's work, statisticians have consistently found positive intercorrelations among the various subabilities thought to constitute intelligence . . .
>
> . . . Among the first to recognize the apparent fact that intelligence is composed of more basic abilities was Thurstone. Thurstone developed a theory of primary mental abilities. Six primary abilities were distinguished through factor analysis.[57]

Wechsler's summary definition of intelligence has been used frequently. It was stated as: "The aggregate or global capacity of the individual to act purposefully, think rationally and to deal effectively with his environment."[58]

Profile of the Academically Talented Students

Considerable information describing the characteristics and behavior of students with high cognitive potential has accumulated.

> The single most important study investigating the characteristics of the gifted was Terman's Genetic Studies of Genius. This project investigated 1,528 gifted children and is expected to continue to the year 2010.[59]

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[57]Rice, The Gifted Child, p. 36.

[58]David Wechsler, The Measurement and Appraisal of Adult Intelligence (Baltimore, Maryland: Williams & Co., 1958), p. 91.

[59]Payne, "The Gifted," p. 195.

In 1925 Volume I of Terman's[60] classic study appeared and contained findings which still form the current scientific knowledge about these capable students. Prior to this study, the talented student was given the stereotype description of being rather strange in appearance and behavior. These individuals were described as being physically small, with thick glasses, introverted and having rather narrow interests. Instead, Terman's subjects appeared to be stronger physically and taller, stronger, and healthier than peers of lesser mental ability. The children were well accepted socially, although they tended toward games played by older children. Favorable character and personality traits were noted with less cheating, boasting, and generally trustworthy. Emotional stability was favorable. Broad capabilities and wide interests were noted in the study participants.

Terman and Oden[61] conducted a follow-up study of these subjects. The above characteristics considered advantageous to the talented child were found to continue as these children grew into adulthood. Substantial contributions to worthwhile fields of work in society were noted as the subjects reached adulthood.

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[60]Lewis Terman, Genetic Studies of Genius, Vol. I (Palo Alto, Calif.: Stanford University Press, 1925).

[61]Lewis Terman and Melita Oden, The Gifted Child Grows Up, Vol. IV (Palo Alto, Calif.: Stanford University Press, 1947).

Since Terman's era, the emphasis on the academically talented has shifted from the consideration of a unitary factor determined by heredity and labeled as IQ to that which encompasses a variety of mental abilities that were influenced by the child's environment.[62] According to Gold the implications of these two factors have an important influence on educational programs for the talented students. He stated:

> For persons concerned with education of the gifted, the conclusions seem to: (1) superior ability is naturally caused; (2) both heredity and environment to play a part; (3) since the school's realm is environmental enrichment, it must do all it can to help each individual attain the maximum of his ability as inherited and as modified by his total environment.[63]

"No one definitive summary of characteristics can possibly encompass the wide range of attributes possessed by gifted children."[64] A typical listing of workable criteria included adjectives or brief descriptions such as:

> Highly advanced achievement; advanced general language skills
> Multiple, specialized, unique interests
> Intense long-range concentration on topic of interest
> Pleasure in learning
> Curiosity, interest in the unusual
> Independence in learning
> Intense, long-range concentration on a given topic

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[62]James J. Gallagher, Research Summary on Gifted Child Education (Illinois: Department for Exceptional Children, 1966), pp. 6-7.

[63]Gold, Education of the Intellectually Gifted, pp. 11-12.

[64]Rice, The Gifted, p. 63.

Interest in application of concepts
Ability to conceptualize, develop relationships
Independence
Idealism[65]

Dunlap noted that not all characteristics of the talented child are welcomed by teachers and parents.

> Characteristics that are negative or unacceptable from an adult's point of view often tend to overshadow more positive signs of ability . . . Both desirable and undesirable characteristics can indicate that a child has an excellent mind. Gifted children may be:
>
> Restless, inattentive, disturbing, or annoying to those around them, like many children who have unmet needs.
>
> Poor in spelling, careless in handwriting, or inaccurate in arithmetic because they are impatient with details requiring rote learning or drill.
>
> Lackadaisical in completing or handing in assignments, and indifferent toward classwork when uninterested.
>
> Outspokenly critical both of themselves and of others, an attitude which often alienates adults as well as children.[66]

Durr reported on ten years of research on the characteristics of these capable children. His findings were:

> Children with high intelligence achieve above their class norms. They usually report favorable attitudes toward school, teachers, and textbooks, although their attitudes are not as favorable as their less gifted classmates. They read widely and many learn to read before entering first grade.

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[65]Kaplan, Providing Programs for the Gifted and Talented, p. 111.

[66]James Dunlap, Education of Exceptional Children and Youth, eds., William M. Cruichshank and G. Orville Johnson (New Jersey: Prentice Hall, 1975), p. 162.

> . . . bright children showed superiority in the relatively complex reading comprehension abilities and work with numbers which was not limited by lack of instructional opportunities . . . there is evidence that those who deviate most markedly above their classmates in intelligence are not accepted as well as those who deviate above the group average to a lesser degree.[67]

Hollingworth revealed that students of IQ's of 180 plus had more adjustments to make than those students whose IQ fell between the range of 130 and 180. Educational and social adjustments presented the following general conduct problems:

> To find enough hard and interesting work at school.
> To suffer fools gladly.
> To keep from becoming negativistic toward authority.
> To keep from becoming hermits.
> To avoid the formation of habits of extreme chicanery.[68]

In helping students achieve maximum potential through differentiated programs, one state program emphasized that:

> Educators bear the responsibility of knowing the total gifted child and need to understand personal needs and anxieties as well as achievement competencies in order to facilitate growth.[69]

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[67]William K. Durr, "Characteristics of Gifted Children: Ten Years of Research," Gifted Child Quarterly, 4 (1960):75-80.

[68]Leta Hollingworth, Children Above IQ 180 (New York: Harcourt, Brace and World, Inc., 1942), p. 156.

[69]Florida, Florida's State Resource Manual for Gifted Child Education, p. 2.

Overview of Identification Complexities

In the area of definition and identification, recent findings have contributed to the complexities. Payne revealed the following:

> Prior to 1900, identification of the gifted was accomplished by an ex post facto process, i.e., giftedness was assigned to those who had achieved outstanding stature and to child prodigies. With the development of standardized intelligence tests in the early 1900's, some gifted individuals could be identified by comparing them with the normal population rather than by evaluating their accomplishments as adults. At this time, it was possible to identify the gifted, measure their potential in gross terms, and begin some type of special education services.[70]

According to Gallagher it would be difficult to pursue the discussion of giftedness without raising the topic of the omnipresent IQ.[71] "Perhaps no measure used in education is more venerated or more profaned by the public than the IQ."[72] Witty discussed Terman's means of identifying gifted students as:

> With the advent of the intelligence test and its widespread use, gifted children were defined and selected according to their IQ scores. L. M. Terman in his early work considered as gifted those children who had scored an IQ of 130 or higher on the Revised Stanford-Binet Scale. His

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[70]Payne, "The Gifted," p. 190.

[71]Gallagher, Teaching the Gifted Child, p. 11.

[72]Gold, Education of the Intellectually Gifted, p. 50.

> investigations showed that about 1 percent of elementary school pupils were in this category.[73]

Gold reported the stages of Terman's testing contributions as far back as 1916 when he revised the 1905 Binet-Simon intelligence test.

> Terman held true to the fundamental conception of the original Binet scales, but he developed a new test with new items and a new scoring system. He introduced the idea of the Intelligence Quotient as a ratio between mental age and chronological age.[74]

Wechsler felt Binet's test was heavily weighted with vocabulary and abstract definitions which explained why performance as well as verbal items were included in his scales. Emphasizing the aggregate or global capacity of intelligence, Wechsler stated: "The only thing we can ask of an intelligence scale is that it measures sufficient portions of intelligence to enable us to use it as a fairly reliable index of the individual's global capacity."[75]

Payne felt that "at first glance, it appears that identification of the gifted is an easy task. However, because of the complexity of intelligence and because of intervening factors such as motivation and interests, identification becomes a rather involved process."[76]

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[73]Paul Witty, "Current Concepts Concerning the Superior Student," Working With Superior Students, p. 26.

[74]Gold, Education of the Intellectually Gifted, p. 56.

[75]Ibid., p. 57.

[76]Payne, "The Gifted," p. 195.

In establishing specific plans for identification and placement of the talented students, Abraham suggested: "Start where we are, evaluate what we have, and go on from there."[77] In the Report to the Congress of the United States by U.S. Commissioner of Education, identification of the talented student was discussed as:

> Identification of the gifted and talented in different parts of the country has been piecemeal, sporadic, and sometimes nonexistent. Very little identification has been carried on in depth, or with appropriate testing instruments . . . The United States has been inconsistent in seeking out the gifted and talented, finding them early in their lives, and individualizing their education.[78]

Based on the review of existing literature, one basic problem to identification procedures was the defining of the population of the students involved for whom special program provisions were needed. "Defining and identifying the gifted are two sides of the same coin. Basically inseparable, they depend on each other."[79]

Considering the beginning steps of the identification process, Durr strongly urged:

> The obvious first step in setting up the program of identification for the gifted is the careful establishment of a sound, logical definition that

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[77]Abraham, Common Sense About Gifted Children, p. 229.

[78]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 23.

[79]William K. Durr, The Gifted Student (New York: Oxford University Press, 1964), p. 16.

> is workable in a specific situation. It is not enough to take the definition given in this book or any other single book and impose it in any specific school. The definitions of many authorities in the field must be sought out, critically analyzed, modified, and weighed against the values, purposes, and limitations in a given situation. This step merits careful and judicious thought.[80]

Gallagher suggested that ". . . identification, in the end, must rest on the definition of giftedness . . ."[81]

Barbe and Stephens noted that states have had an opportunity through state legislation to select a definition to fit with its own educational needs.[82] Martinson felt the definition may differ on the local level where individual community programs were being planned.

> In planning identification programs, it is necessary to define giftedness. This must be done at the local level, and definitions will vary from community to community, depending on what levels of ability and special talents are to be included, on allowance to be made for environmental deprivations, on the number of children to be served, and on other factors.[83]

A broader range of identifying procedures and the use of multiple criteria for maximum efficiency and effective identification of the talented were recommended in

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[80]Ibid., p. 16.

[81]Gallagher, Research Summary on Gifted Education, p. 6.

[82]Walter B. Barbe and Thomas M. Stephens, eds., Educating Tomorrow's Leaders (Ohio: Division of Special Education, 1961), p. 14.

[83]Ruth A. Martinson, The Identification of the Gifted and Talented (California: Ventura County Superintendent of Schools, 1974), p. 6.

the literature. "A New York survey found that 76 percent of all schools used four or more criteria while less than 2 percent depended on a single criterion."[84] "The identification process should include a variety of criteria which would provide for the selection of children from minority groups, because of the environmental impact on test performance."[85]

Multiple screening procedures would permit students to be nominated from the following sources:

1. child guidance and testing centers;
2. experts, specialists, professionals in the community;
3. classroom teachers, consultants, and administrators;
4. parents;
5. self-referral by students;
6. work settings in business and industry; and
7. formal screening programs (e.g., annual test batteries, teacher ratings, peer referrals by sociograms).[86]

Rice recommended that a complete case study be assembled and kept up to date for each candidate. The data to be included in the case study would be:

1. Developmental Information
   Home and family background, activities
   Health and physical audition
   Social-emotional maturity
   Diversity of interest, involvement and productivity

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[84]California, Department of Education, Principles, Objectives and Curricula for Programs in the Education of Mentally Gifted Minors, (1971), p. 87.

[85]Florida, Florida's State Resource Manual for Gifted Child Education, p. 5.

[86]Rice, The Gifted, p. 58.

Record of manifest talents
Awards, competitions, honors

2. Psychometric and Academic Data
Summary of grades, ratings, performance
Academic achievement tests and exams--all areas
Mental ability scores IQ
Survey of aptitudes, skills
Interest, value inventories
Assessment of personality functioning

3. Self Inventory
Aspirations, ambitions, plans
Doubts, inhibitions, anxieties
Expressions of self-understanding, insight
Inventory of acknowledged educational needs

4. Professional Prognostications
Summary of anecdotal records
Recommendations for special program placement
Warnings for anticipated developmental problems, conflicts
Projections of expected training educational needs
Predictions from community experts.[87]

Gowan and Demos discussed the effectiveness of the teacher as part of the screening process.

> Teacher ratings and recommendations are frequently inaccurate in regard to the intelligence of their children. They tend to overrate the well-disciplined, conforming, mannerly and docile and to underrate the original, creative, curious, and independent. They also err in confusing achievement with intelligence. While these defects precluded teachers' ratings from determining identification by themselves alone, they will certainly be found helpful in providing candidates to be subjected to further scrutiny in any multi-level identification process.[88]

In the task of identifying students for the academically talented programs, Gallagher revealed the weakness of teacher nomination.

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[87]Ibid., pp. 58-59.

[88]Gowan and Demos, Education and Guidance of the Ablest, p. 285.

> Many children who have a high aptitude for reasoning and conceptualization are not performing well in school. Such a definition would then rule them out. Albert Einstein, Thomas Edison, and Winston Churchill would constitute three classic cases that would not be labeled "gifted" by teacher nomination.[89]

Keller concluded that "an honest, thorough evaluation of a student by an astute, experienced, intelligent teacher who knows him well is probably the most valuable of all indicators of gifted youths."[90] According to Gold, the teacher was in a rare position for nomination of candidates.

> Seeing relationships, being able to work with abstractions, and high verbal ability as expressed in speech and reading are other characteristics that alert the teacher to the possible presence of intellectual giftedness. Because of the nature of school programs, the teacher is in a rare position to see such signs as no one else can.[91]

Gallagher explained teachers' observations as follows:

> One reason for teachers' errors in identification is the expectation that a "gifted" child should be enthusiastic in his response to the educational program. Many of these children are willing to go along with the program, perhaps too willing. However, some "gifted" children will resist routine and the demand of conformity and may be classified as behavior problems or merely as apathetic youngsters of average ability.

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[89]Gallagher, Teaching the Gifted Child, p. 18.

[90]George C. Keller, "Bright Kids," American Education 3 (April 1967), p. 29.

[91]Gold, Education of the Intellectually Gifted, p. 81.

> The general consensus regarding the weakness of the teacher ratings can be summarized as follows: the teacher is likely to miss gifted children who are underachievers, motivational problems and belligerent or apathetic toward the school program . . .[92]

Dunlap presented his views as: "teacher's judgment which is based on characteristics and classroom attainment needs to be reinforced by group intelligence and achievement test results and all findings substantiated by individual tests."[93]

Findings in the Advocate Survey[94] concerning the identification procedures used in searching for the talented student were:

> . . . the advocates favored multiple means for identification of the gifted and talented, including measures for intelligence, achievement, talent, and creativity. The highest rank was accorded the individual intelligence test, a means not used in most States because of the cost. Undoubtedly, this rank is based on the knowledge that group measures fail to locate at least half of the gifted and talented in any population.[95]

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[92]Gallagher, Research Summary on Gifted Child Education, p. 11.

[93]Dunlap, Education of Exceptional Children and Youth, p. 163.

[94]The Advocate Survey was sent to 239 experts to obtain recommendations on provisions for the gifted and talented. The advocates represented all sections of the United States. They were selected because of their specialized experience and knowledge of the talented students. There were 204 returned surveys from state education officials, university professors, and education organization representatives.

[95]Ruth A. Martinson, "An Analysis of Problems and Priorities," quoted in Education of the Gifted and Talented, Report to Congress, p. 94.

One study revealed that group test scores tended toward the higher side for the below average student while, for the above average, group test scores were lower than those received on the Binet scale.[96]

Terman and Oden[97] reported that certain mental characteristics were observed by parents without the use of intelligence tests. Early indications of superior intelligence noted by parents were quick understanding, large vocabulary, curiosity, retentive memory, extensive information, and an unusual interest in number relations.

Gallagher urged a closer look at the changing view of the intelligence test when used as an identifying tool:

> The nature of our society and the swiftly changing events of our era have stressed the value of the intellectual characteristics of adaptability, originality, and creativity. These abilities go beyond the measures of memory and simple problem-solving that are commonly found on intelligence tests.[98]
>
> Guilford's three-dimensional model of intellectual processes clearly implies that there are a number of cognitive processes that are not measured in conventional tests and provides the

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[96]William D. Sheldon and George Manolakes, "Comparison of the Stanford-Binet, Revised Form L. and the California Test of Mental Maturity (S-Form)," Journal of Educational Psychology, 45 (1954):499-504.

[97]Terman and Oden, The Gifted Child Grows Up, p. 25.

[98]Gallagher, Research Summary on Gifted Child Education, pp. 6-7.

basis for additional research into such areas as divergent thinking and problem solving.[99]

Rice urged that the identification process should begin in kindergarten and continue the entire school career.[100] Freehill presented a strong case for early identification:

> There has been an unfortunate tendency to examine the problems of gifted children only in secondary school and college and to neglect the revealing evidence and vital problems found in childhood and early school years. It is during this period that foundations for academic competence, intellectual habits, and motivational patterns are developed. It is improbable that one can elaborate a set of educational principles which are applicable at one level but not at the next.[101]

Another appeal for early identification and placement came from a study showing that the IQ of students with high mental capabilities was found to drop after third grade when no special educational provisions were made for them.[102]

Respondents of one survey recommended identification and program provisions as follows:

> . . . most programs still operate at the secondary level on a too-little-and-too-late basis, despite abundant knowledge from research that gifted children face the greatest adjustment problems at school entry and during the primary grades when patterns of underachievement become entrenched.[103]

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[99]James J. Gallagher, ed., Teaching Gifted Students (Boston: Allyn & Bacon, 1965), p. 2.

[100]Rice, The Gifted, p. 75.

[101]Freehill, Gifted Children--Their Psychology and Education, p. 8.

[102]Walter B. Barbe, "Identification of Gifted Children," Education (September 1967):15-21.

[103]Martinson, "An Analysis of Problems and Priorities," p. 100.

Durr recommended a continuous process of identification rather than selecting grade levels for screening to begin.

> Identifying procedures should be carefully and systematically applied at all levels. Neither beginning students nor those about to finish should be excluded. Systematic application implies a standardization, and also, regularly set, periodic reevaluation. Students transferring into the school or others who may have been missed some how should not be penalized through any "one shot" identification process that does not allow for repeated checking.[104]

Staffing Patterns

Educational opportunities for the academically talented students depend on the abilities and interrelationships between roles of the professional personnel involved in these programs. Rice underscored the need for utilization of varied staff skills at the school level.

> The implementation of programs for talented students depends upon the utilization of varied staff skills within a given school. Adequate program planning and administration demands upon cooperation of the entire faculty with supplemental resource personnel and agencies . . . Each professional staff member is called upon to discharge a unique role in keeping with his specialized preparation. In addition, professional staff members share common tasks to which they must all cooperatively contribute.[105]

> The similarities and differences between roles and responsibilities of the personnel who will perform the duties for the program must be

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[104]Durr, The Gifted Student, p. 17.

[105]Rice, The Gifted, p. 270.

> clearly distinguished. Job descriptions should specifically articulate the roles and practical aspects of the program within the institution.[106]

Castetter recommended delineation of roles and responsibilities through position guides to "decide relevant duties, responsibilities, relationships, and qualifications needed for their performance."[107] If an honest and constructive evaluation of the job is to be done, according to Kaplan, the following was suggested:

> Care must be exercised to make sure that overlapping duties do not result in failure to perform a task because "someone else was supposed to do it." Although explicit job descriptions lead to program effectiveness, no description should be so rigidly formulated that individual style, expertise, and preference in performing the task are seriously inhibited . . .
>
> The duties of the job should underscore the expectations for effective performance and assist individuals in developing a clear perception of who they are and what they need to do. Only after this is done can an honest and constructive evaluation of the job be made.[108]

Administrative

Durr noted the levels of administrative responsibility in programs for the academically talented.

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[106]Kaplan, Providing Programs for the Gifted and Talented, p. 23.

[107]William B. Castetter, The Personnel Function in Educational Administration (New York: Macmillan Publishing Company, 1971), p. 241.

[108]Kaplan, Providing Programs for the Gifted and Talented, p. 23.

> The three divisions of state, system, and school serve as convenient divisions for examining the administrative levels of challenge for educating the gifted.[109]

Kaplan described the roles and responsibilities from the standpoint of the state level as:

> Establish the position of State consultant on the education of the gifted.
>
> Advise and assist districts in determining the need for programs for the gifted.
>
> Develop, promote, coordinate, and assist county and local districts in establishing programs for the gifted.
>
> Interpret and apply State law and administrative regulations.
>
> Secure and compile information about local programs for the gifted.[110]

Kaplan delineated the role of the local school district and the superintendent as follows:

> Work cooperatively with county and State agencies.
>
> Acquire and disseminate extensive background on the needs of the gifted and talented.
>
> Develop appropriate identification and program development procedures.
>
> Plan modifications of the current program. Evolve program development and evaluation models.
>
> Actively support the gifted program with needed materials, adequate facilities, sufficient freedom

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[109]Durr, The Gifted Student, p. 234.

[110]Kaplan, Providing Programs for the Gifted and Talented, p. 24.

for teachers, expert resource and consultant help, and democratic administrative guidance.[111]

Competent administrative leaders are vitally important in initiating and continuing programs for the talented.[112] Durr felt the principal played the dominant role as an administrator because of the closeness to the students. Relationships to the staff and the program were described as: "The principal has the greatest opportunity for unshackling the brainpower of the local school staff and for maintaining the classroom programs that they collectively devise."[113] Another source was in agreement with the principal's role: "It is important to remember that teachers rarely pursue major innovations without an administrator's approval."[114] Experts in the field of working with the talented students found the following to be in evidence: "The administrator can encourage or discourage teachers through his remarks and behavior. His support must be active to encourage teachers in the extra efforts required to maintain high quality programs."[115]

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[111]Ibid., p. 24.

[112]New York Teachers Association, "Factors Involved in the Successful Initiation and Continuance of Programs for the Gifted," Public Education Research Bulletin 21 (June 15, 1960), p. 2.

[113]Durr, The Gifted Student, p. 236.

[114]James Gallagher, Talent Delayed--Talent Denied: A Conference Report (Restom, Virginia: Foundation for Exceptional Children, 1974), p. 2.

[115]Martinson, "An Analysis of Problems and Priorities," p. 107.

Kaplan outlined the principal's responsibilities in inaugurating and continuing programs for the academically talented students.

> Become knowledgeable about the unique needs of the gifted.
>
> Become acquainted with gifted students in the school.
>
> Stimulate interest in and concern for the gifted.
>
> Urge teachers to provide qualitatively-differentiated programs for the gifted in their classrooms.
>
> Cooperate with district personnel in identifying the gifted and implementing programs for them.
>
> Encourage and assist teachers in securing appropriate instructional materials for the gifted.
>
> Meet regularly with parents to explain the program to them.
>
> Work cooperatively with other personnel in objectively evaluating the program.[116]

Another key position in the administrative structure of the talented programs was that of program coordinator. The duties of the program coordinator were to give:

> . . . in-service assistance for teachers, other school personnel, and parents, and through arranging for access to learning materials. Experts agreed that much of the responsibility for program success and decision should be assigned to a special consultant for the gifted at the local level. The need undoubtedly is seen as one for a constant interpreter and advocate for

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[116]Kaplan, Providing Programs for the Gifted and Talented, p. 25.

> the gifted, as well as one who would have the authority to arrange optimal learning situations and affiliations.[117]

Instructional

Isaacs described the cyclical development of diverse topics which have appeared in the literature concerning the education of the talented.

> There has been a steady, if mild interest, in one of the keys to the whole problem of adequate education for the gifted. This is in the person of the teacher.[118]

"It is an educational axiom that all programs depend ultimately upon the teacher for their successful execution."[119] Gold considered the teacher as:

> . . . the key figure in education; he is just as central to the education of the gifted. The teacher serves not only as a mentor but as a model of intellectual interest and intellectual achievement. His basic role is not to convey information but to stimulate intellectual interests and develop high standards of achievement and social concern.[120]

"A major portion of previously published work relating to the teachers of the gifted focuses on desirable qualities of teachers of the gifted."[121] In discussing

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[117]U.S. Commissioner, Education of Gifted and Talented, p. 34.

[118]Ann F. Isaacs, "A Survey of Suggested Preparation for Teachers of the Gifted," Gifted Child Quarterly 10 (1966):72-77.

[119]Rice, The Gifted, p. 265.

[120]Gold, Education of the Intellectually Gifted, p. 148.

[121]Isaacs, "A Survey of Suggested Preparation for Teachers of the Gifted," pp. 72-77.

qualities of teachers of the talented, one state identified a comprehensive set of criteria and characteristics which included:

CREATIVITY IN:

- thinking
- classroom management
- teaching strategies
- utilizing materials
- planning educational experiences
- use of community resources

ORGANIZATIONAL SKILLS IN:

- curriculum
- utilizing physical environment
- locating and working with community resource people
- classroom management

ENTHUSIASM FOR:

- the learning process
- development of a gifted program
- individualization of learning
- creativity in teaching and learning

WARMTH AND SINCERITY:

- in accepting and encouraging individual differences and non-conformity of gifted children;
- for fellow professionals and colleagues;
- in working with parent relationships

KNOWLEDGE IN:

- the area of gifted children, their needs and characteristics, one field or area of expertise;
- the problem solving methods utilized to relate various fields, broad areas or disciplines;
- teaching strategies specifically geared to the gifted

FLEXIBILITY IN:

- utilizing the physical environment;
- utilizing a variety of materials and equipment;
- structuring and restructuring interest and learning groups;
- modifying lessons to capitalize on opportunities for spontaneous learning

RESOURCEFULNESS IN:

locating supplementary materials;
identifying resource individuals;
locating sites for meaningful educational experiences.[122]

Gowan and Torrance noted some personal and professional characteristics which administrators might consider in selecting teachers for the academically talented students. They were:

> . . . look for those teachers with vitality, energy, stimulating personality, strong intellectual backgrounds, and rigorous in their demands for learning. They are early to school and often stay late; they have close contacts with books, libraries, laboratories; they give professional and scholarly eminency, producing things outside of school; they have original ideas and try to carry them out . . .[123]

Gowan and Demos described the strengths and expectations of a generally effective teacher for the talented.

> . . . he is perhaps less patient and more demanding, less soothing and more stimulating, less apathetic and more responsible and organizing, with a wider general background, subject knowledge, enthusiasm and vigor. He is less threatened by bright children, more able to delegate tasks and allow children freedom to work on their own . . . He is not a genius but he is able to appreciate it. He is still growing intellectually and not above learning from his pupils. Above all he is capable of inspiring his charges to the best that lies within them and he is not afraid to train them to exceed his own work.[124]

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[122]Florida, Florida's State Resource Manual for Gifted Child Education, pp. 18-19.

[123]Gowan and Torrance, Educating the Ablest, p. 163.

[124]Gowan and Demos, Education and Guidance of the Ablest, p. 392.

Supportive Personnel

Gallagher recognized that no one group of professional educators can function autonomously. He saw the need for drawing from accumulated knowledge and skills of additional educational personnel.

> Discussions about personnel for the gifted almost always center on the teacher. Yet in most modern schools the teacher is only one member of a professional team, albeit the most important one, that blends a variety of skills and backgrounds into a total educational program. The importance of personnel auxiliary to the teacher is best seen when such personnel are absent . . .
>
> In addition, the use of mentors, paraprofessionals, and technical assistance personnel is encouraged in special circumstances and underlines the need to fit the special education program to the needs of the gifted children in a particular seating.[125]

Rice[126] listed four main kinds of personnel required at the local levels which included supportive and instructional. They were listed as: school psychologists, school counselors, resource specialists including curriculum consultants and teachers from all subject matter disciplines. He urged the redefining of the roles of the teacher and the counselor in areas where they overlap in order to prevent what he termed as professional isolationism and lessen formidable barriers which may stand in the way of providing effective programs.

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[125]Gallagher, Teaching the Gifted Child, 2nd ed., pp. 323-335.

[126]Rice, The Gifted, p. 270.

Gallagher[127] labeled these services as adjunctive interventions in the talented programs and emphasized the necessity for them in planning for these students. He explained this intervention as services which might be added extras in a school program like help or counseling for talented students who were underachievers. Recommendations were given by Gallagher that school systems without these staff members may have to seek adequate consultant help before embarking upon the programs for the academically talented students.

In scanning the field of supportive personnel and their roles and responsibilities in these programs, Gowan and Demos concluded the following:

> Pupil personnel services have to do with the mental and physical welfare of the child in all of their aspects and ramifications. Just as curriculum people form the staff in relation to the content of education, the pupil personnel people form the staff for the child and his needs. Hence, guidance workers, counselors, school psychologists and psychometrists, medical doctors, nurses, attendance officers, social welfare personnel and psychiatric case workers form the corps of this service.[128]

Preservice and Inservice Training

A large scale study placed a high priority on preparation of teachers who work with the talented students.

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[127]Gallagher, Research Summary on Gifted Education, p. 77.

[128]Gowan and Demos, Education and Guidance of the Ablest, p. 243.

> Preparation of teachers to work with the gifted should precede expenditures on materials and facilities, which should be recommended by informed school personnel after careful planning for a given population of gifted and talented pupils.[129]

Teachers may have been screened thoroughly before placing them in the role of working with the talented students but further preparation was recommended to strengthen proficiency.

> Even when teachers of the gifted are carefully selected and represent the highest levels of professional competence, their teaching performance can be significantly improved through inservice study. Highly desirable changes in the quality of learning, communication, classroom content, and diversity of classroom experiences have resulted. Other benefits reported by teachers include increase in teaching skills, knowledge of subject matter, and increased appreciation of the needs of the gifted.[130]

Seymour indicated the basis for special training needs of teachers as:

> . . . teachers, experienced or not, are ill-equipped to cope with the specific needs of the gifted. The teachers need opportunities to learn new ways, develop rapport with a different type of student, accept the flexibility and additional responsibilities inherent in more responsive organizational plans and become more secure in teaching young people who are likely to be more intelligent and more talented than they themselves . . .[131]

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[129]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 42.

[130]Ibid., p. 43.

[131]Seymour Spiegel, Education of the Gifted and Talented: A Role for the Private Sector, ed., Jane Case Williams (Washington, D.C.: Office for Gifted and Talented, 1974), p. 10.

Goodlad had some reservations about placing teachers in new programs without adequate orientation in new materials and skills.

> . . . Many teachers simply cannot adapt themselves to what is required. Long conditioned to deductive approaches, they turn materials intended for student investigation into objects of rote response.
>
> Traditionally, teaching has been a telling procedure. In general, students have been encouraged to explore, invent, discover, and create . . . Teachers are being asked to preside over a fundamentally different kind of learning-teaching process. To think they will make the transformation easily is naive.[132]

Attitudinal characteristics of teachers without special backgrounds were considered to be inappropriate for meeting the educational needs of these students.

> Teachers with no special background have been found disinterested in and even hostile toward the gifted. They believe that the gifted will reveal themselves through academic grades, that they need all existing content plus more, and that teachers should add to existing requirements rather than delete anything.[133]

After participation in preservice and inservice programs by the teachers involved, a more positive acceptance of the talented programs was noted.

> Teachers who have worked with special programs tend to be enthusiastic about them, while those

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[132]John I. Goodlad, The Changing School Curriculum, Report from the Fund for the Advancement of Education, New York, 1966, pp. 102-103.

[133]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 43.

> who have not are generally hostile. Experience with programs and inservice preparation produce more favorable attitudes in teachers toward both gifted children and special programs.[134]

Durr added a cautious reminder along with supporting the need for teacher involvement in training programs.

> Although training alone does not make the most effective teachers of the gifted, without such training they are unlikely to reach their maximum potential in helping these students.[135]

Inservice training programs were recommended for administrative leaders who contact or affect the talented student.

> Nearly all of the experts recognized the need of school administrators for inservice preparation of the gifted. Since administrators affect teaching in many ways by their decisions as well as their attitudes, the recommendation is logical.[136]

> Administrators often determine the existence of programs, decree their abolition, or deny the need for them. Over half of a representative sample of schools in the United States reported no gifted students in their schools! The statement may be ascribed to hostility but not fact.[137]

The Advocate Survey indicated an especially acute need for further training of the supportive personnel in dealing with these students and programs. Critical needs were discussed as follows:

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[134]Ibid., p. 42.

[135]Durr, The Gifted Student, p. 261.

[136]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 107.

[137]Ibid., p. 43.

> School psychologists and guidance counselors were seen as mildly or highly positive toward the gifted by approximately two-thirds of the respondents, while social workers and tutorial workers were seen principally as neutral, negative, or unknown. (This finding is interesting in view of the fact that social workers have advanced preparation which supposedly enables them to be aware of individual differences and needs.) . . .
>
> A research study established school psychologists as relatively more hostile toward the gifted than other persons in education, despite their advanced preparation . . . Only three percent of the experts felt that pupil personnel workers show a positive attitude toward the gifted while 22 percent of the responses described negative attitudes, others concern, or apathy and indifference toward the gifted.
>
> The great majority of experts said that pupil personnel workers are not equipped for working with the gifted, with 85 percent recommending that they be given added preparation, particularly in gaining information on the gifted and their needs.[138]

Another element of professional development concerned the provisions--or lack of--offered by colleges and universities for the preparation of personnel. Blackburn explained the need for these provisions as:

> Differences in teacher attitudes and actions toward the gifted and talented will only take place when such differences, attitudes and actions are placed in relatively high priority by teacher training institutions.[139]

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[138]Martinson, "An Analysis of Problems and Priorities," pp. 107-108.

[139]Harold Blackburn, Education of the Gifted and Talented: A Role for the Private Sector, p. 10.

Marland[140] reported that only twelve colleges in the nation offered graduate training programs in the field. He suggested the necessary training begin with inservice workshops which would not require hugh expenditures or rearrangement of committed monies. In developing meaningful teacher-training programs for teachers of the talented, Rice suggested:

> The creation of a specialized preparation major area in the education of the gifted child, which could be applied as a major or minor toward a standard teaching credential, should be considered by colleges.[141]

Gallagher proposed the following courses and experiences for training personnel to work with the talented.

> There is general agreement that the teacher should acquire greater knowledge of the gifted child, his unique combination of characteristics, and some familiarity with past educational attempts to meet these needs. These courses would probably include some extended discussion of creativity, originality, and critical thinking abilities.
>
> The despairing cry of the teachers for more content knowledge must be met by such a program . . . Another area of importance is the development of methods for dealing with these children . . . Most of all, the prospective teacher of the gifted should be able to try out these new methods under adequate supervision. Some sort of practicum arrangement needs to be inserted in any training program.[142]

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[140]Marland, "Our Gifted and Talented Children--A Priceless National Resource," pp. 16-19.

[141]Rice, The Gifted, p. 287.

[142]Gallagher, Research Summary on Gifted Education, pp. 129-130.

Looking into future needs in this area, Gowan and Torrance noted that:

> It is unfortunate that so few persons are being trained at present because if biological breakthroughs should produce a marked increase in the number of gifted children by the year 2000 we would not even have trained enough teacher trainers (let alone teachers) to cope with the educational problems created.[143]

Khatena discussed implications and future directions for colleges and universities.

> The need for facilitators and leaders of the gifted and talented will require many more colleges and universities to offer training programs leading to certification and granting of degrees at the Masters and Doctoral levels. Related to this will be the establishment of consortiums of academic institutions that will bring together the best talent in common effort to prepare leaders for effective management and advancement of gifted and talented education.[144]

Gallagher summarized the results of a survey which advocated inservice training for professional personnel as well as programs for teacher preparation. Recommendations were as follows:

> A recent survey of 239 experts in education of the gifted strongly advocated specialized teacher preparation, continued professional study, and frequent contact with other teachers of the gifted. These experts recommended subsidies for training, university training centers, and inservice preparation for those already in the profession.[145]

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[143]Gowan and Torrance, Educating the Ablest, p. 165.

[144]Joe Khatena, "Educating the Gifted Child: Challenge and Response in the U.S.A.," paper presented at the World Conference on Gifted and Talented held in London, England, 9th September 1975.

[145]Gallagher, Teaching the Gifted Child, p. 313.

Administrative Strategies for Program Development

Roebuck reported on the academic performance of talented students who were part of special educational provisions. These talented students were compared with other talented students assigned to control groups and not participating in special educational provisions. The organizational patterns for the learning environment were Saturday Class, Part-time Interest Class, and Special Full-time Class. Significant gains in standard achievement measures were in the Saturday Special Class and the Full-time Class. Conclusions were that the more definitive and the more intensive the special provisions were the greater the chance of getting measurable improvement in the performance of the talented students.[146]

Adapting educational programs for the academically talented could be accomplished with these general strategies--upgrading curriculum, learning style, and learning environments.[147] In planning administrative strategies for the academically talented students, Gallagher presented objectives for special learning situations.

> The objectives for embarking on some type of administrative changes for the gifted are fairly straightforward:

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[146]Mildred Roebuck, "Special Classes for Intellectually Gifted Students," California Project Talent, eds., Paul Plowman and Joseph Rice (Sacramento, Calif.: California Department of Education, 1967), p. 99.

[147]Gallagher, Teaching the Gifted Child, p. 305.

1. Reduce the range of talent and achievement in a group to allow the teacher a better opportunity to focus his efforts.

2. Reduce the amount of time that the gifted child, student, and adult must spend in the total educational process.

3. Bring the best-prepared personnel into touch with these students.[148]

Coexistence of Administrative Designs

Payne listed the three basic administrative approaches used in educational provisions for the talented. These were described as enrichment, ability grouping, and acceleration. Concerning these three approaches, one source reminded educators that: "They do not, in themselves, constitute a program. However, they may be utilized to facilitate individualized instruction for gifted pupils."[149]

DeHaan and Havighurst concluded the following:

> . . . the three methods are combined and adjusted so that rarely, if ever, is a single approach used exclusively. They are generally combined so that presumably the strengths of each method can be enhanced and its disadvantages minimized.[150]

Before deciding the setting for the learning environment, Kaplan urged:

> Putting any of these into practice revolves around its workability in a particular situation. No one prototype will do everything . . .

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[148]Ibid., p. 271.

[149]Payne, "The Gifted," p. 197.

[150]DeHaan and Havighurst, Educating Gifted Children, p. 91.

> A program can be a composite of several prototypes which combine and adapt what is possible with what is practical and feasible.[151]

Selecting the appropriate design or choosing an eclectic position for these programs would depend upon the following:

> number of gifted children identified;
>
> the available or obtainable resources in the community both human and physical;
>
> the local educational point of view.[152]

Administrative Designs

Rice presented an example of a 'master program slate' which explored many alternatives for differential programming. Without the description of each, an outline form was presented as:

I. Special Grouping Possibilities

- A. Special Classes.
- B. Cluster Grouping.
- C. Homogeneous Grouping.

II. Enrichment in the Regular Classroom

- A. Pupil Projects.
- B. Supplemental Learning Kits.
- C. Special Subject Matter Units.
- D. Utilization of Teacher Specialists.
- E. Small Group Activity.
- F. Large Group Activity.

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[151]Kaplan, Providing Programs for the Gifted and Talented, p. 45.

[152]Florida, Florida's State Resource Manual for Gifted Child Education, p. 12.

III. Acceleration and Advanced Placement

A. Advanced Classes.
B. Ungraded Classrooms.
C. Utilization of the Summer School.
D. Early Entrance.
E. Grade Combinations.
F. High Ceiling Curriculum
G. Simple Double Promotion . . .[153]

Acceleration. Acceleration was the first administrative design used in America to provide educational programs for the talented. The use of acceleration was explained as follows:

> . . . saving of time was achieved by differential rates or promotion and did not involve methological or curricular change. In 1868, St. Louis Public Schools inaugurated a plan . . . Promotion periods were shortened to half-year, quarter, and then five-week sessions . . . Another early plan was the multiple-track system in Elizabeth, New Jersey. Pupils were sectioned and allowed to advance at different rates. The Cambridge plan starting in 1891 applied to grades four to nine. One group covered these grades in four years, the other in six.[154]

"The New York City special classes for gifted students of 1900 were also designed to permit acceleration."[155]

Based on findings in the writings, acceleration has met with some objections in the school systems. Gold contended:

> No paradox is more striking in the education of the gifted than the inconsistency between

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[153]Rice, The Gifted, pp. 108-109.

[154]Freehill, Gifted Children, pp. 189-190.

[155]Durr, The Gifted Student, p. 9.

> research findings on acceleration and the failure of our society to reduce the time spent by superior students in formal education. More evidence will be found favoring acceleration than homogeneous grouping or particular enrichment devices; yet acceleration is the least practiced instrument in educating the gifted. Apparently those values which favor a standard period of dependency and formal education for young people in our culture are stronger than demands for early achievement because of social need.[156]

Getzels and Dillon noted that "when research findings clash with cultural values, the values are more likely to prevail."[157]

Rice listed the acceleration programs which may be operating in today's schools and included:

1. advanced classes in subject matter disciplines,
2. ungraded or multigraded classrooms,
3. summer school programs for grade substitution,
4. early entrance to kindergarten or the first grade,
5. combined grades with restructured, accelerated curriculum,
6. high ceiling curriculum with no grade level placement,
7. simple double promotion.[158]

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[156]Gold, Education of the Intellectually Gifted, p. 328.

[157]Jacob W. Getzels and James T. Dillon, "The Nature of Giftedness and the Education of the Gifted," Second Handbook of Research on Teaching, ed. R. M. W. Travers (Chicago: Rand McNally & Co., 1973), p. 717.

[158]Rice, The Gifted, pp. 177-178.

Gallagher noted a variety of acceleration techniques other than what is usually thought of as grade skipping.

> For many years, most of the public and many educators have felt that acceleration and grade skipping were synonymous terms. As a matter of fact, grade skipping is considered one of the least desirable methods of accomplishing acceleration of gifted students.[159]

Chapman claimed that grade skipping adjusts the child to the system rather than providing a logical, sustained, and planned curriculum than previously offered.[160]

Specifically, Gallagher described the variety offered as:

> At the primary level, the most common method is early admittance to school. In communities where the admittance standard is based on a rigid chronological age standard, exceptions can be made for bright youngsters who show both mental and emotional maturity. The ungraded primary programs where gifted children may complete the first three grades in less time, gives the opportunity for acceleration without leaving the group.
>
> At the intermediate level, double promotion, or grade skipping, seems to be the procedure most often used. For it to work effectively, such a double promotion has to be carefully planned well in advance of the actual move so that the student misses nothing in the way of vital content throughout this advance.[161]

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[159]Gallagher, Teaching the Gifted Child, p. 286.

[160]Guy Chapman, "Educational Programs in California for the Gifted and Talented," The Gifted Child in Elementary School, Twenty-sixth Yearbook of the California Elementary School Administrators Association, (1954), p. 21.

[161]Gallagher, Research Summary on Gifted Child Education, pp. 95-96.

Gold suggested a valid set of criteria be considered before acceleration is recommended.

> Criteria should include academic achievement, some measure of physical age and an evaluation of social maturity and emotional stability. Intelligence and achievement scores, checked against teacher grades should indicate ability that would place the student in approximately the top quarter of the grade to which he is being accelerated. Physical data should include height, weight, and strength measurements . . .[162]

Pressey noted that acceleration may not only provide more education in less time but increase the student's functioning abilities. He presented the argument that the talented students have tended to produce significant creative contributions early in their professional careers.[163]

Gowan and Torrance noted the advantages of acceleration on the one hand and on the other emotional resistance which come from parental objections. "After a lot of heated discussion, we found out that acceleration is an easy way which research universally favors at any level, but it runs counter to the prejudices of many parents and educators."[164] One state program noted another effect of acceleration.

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[162]Gold, Education of the Intellectually Gifted, p. 338.

[163]Sidney Pressey, "Educational Acceleration: Occasional Procedure or Major Issue?", Personnel and Guidance Journal 41 (December 1962):12-17.

[164]Gowan and Torrance, Educating the Ablest, p. 41.

> Early attempts at acceleration, passing through grade work and a grade at a faster rate, worked well for instructional purposes but caused some social problems. After a few years of acceleration the student found himself in classes with students three or four years older than himself . . . Acceleration programs have mostly been abandoned . . .[165]

Passow provided evidence to refute this claim:

> The weight of experimental evidence tends to support the position of academic gains through acceleration of the gifted student at all levels. Research into the effects of acceleration on social and emotional adjustment has generally demonstrated no serious detrimental results.[166]

Kough noted a criticism of acceleration which has been found in the literature as: ". . . acceleration results in serious learning gaps in academic areas."[167] "Studies have shown that gifted children can condense school requirements and cover them fast with no difficulty and with superior performance."[168]

Early admittance to school was one form of acceleration studied that had revealed favorable results. Birch studied forty-three students who were enrolling in first

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[165]North Carolina, State Department of Public Instruction, Information Concerning the Program for Gifted and Talented Students, (1974), pp. 4-5.

[166]A. Harry Passow, "Enrichment of Education for the Gifted," Education for the Gifted, Fifty-seventh Yearbook of the National Society for the Study of Education, Part II. ed. Nelson B. Henry (Chicago: National Society for the Study of Education, 1958), p. 214.

[167]Jack Kough, "Administrative Provisions for the Gifted," Working With Superior Students, p. 128.

[168]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 40.

grade in 1951, 1952, and 1953. The mean age of this group was five years and seven months. Superior reading aptitude and a suggested IQ of 130 were the requirements for admission. Evaluation in the follow-up studies from principals and teachers reached the following conclusions:

> Admittance to first grade early tended to blend favorable features of acceleration and lessened the unfavorable ones.
>
> Early admittance revealed a promising procedure for the talented students in age-grade placement if conducted according to entrance requirements.
>
> Practically all children needed to be screened to identify the academically talented. Since admission to first grade is a once in a lifetime occurrence, it was considered to be highly important that it be provided to the precocious.
>
> Further research was recommended to set the practical limits on age requirements.
>
> Eliminated grade skipping later in the academic year which lessened social adjustments and gaps in learning skills.
>
> Provided for six years of elementary school rather than the five associated with the acceleration design.[169]

Braga conducted a study of sixty-three students in the first, third, fifth, and seventh grades to determine the effects on academic and non-academic achievement as well as emotional and social development. The early admitted students were compared with later admitted students and were matched with IQ and sex. The students admitted

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[169]Jack W. Birch, "Early Admission for Mentally Advanced Children," Exceptional Children 21 (December 1954):84-87.

early were lower in mental age. School training was the same for all groups with no special provisions for the ones admitted early.

Data were gathered from achievement tests, school records, parent and teacher questionnaires, and a specially designed teacher rating instrument. Results revealed no significant differences between the ones admitted early and the students admitted at the normal time. The parent and teacher questionnaires indicated teachers were opposed to early admission while the parents of those students admitted early were in favor of early admittance. Parents of students who were admitted at the normal time opposed early admittance.[170]

Keys supported early admission for students who were mentally advanced. "Adjustment to classmates older than oneself is probably made most easily when early in one's schooling, before friendships and crowds are too strongly established."[171] Hobson recommended early admission to kindergarten as the most desirable time for participation in an accelerated program. This would eliminate a break in the student's academic program by skipping a

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[170]J. L. Braga, "Analysis and Evaluation of Early Admission to School for Mentally Advanced Children," Journal of Educational Research 63 (November 1969):103-105.

[171]Noel Keys, "Should We Accelerate the Bright?" Journal of Exceptional Children 8 (May 1942):248-250.

grade or double promotion later.[172] Referring to the early admitted students, Hiskey stated: "Would that we could be assured that as many of our regular entrants would adjust and progress as well in school as the early entrants do."[173]

As to the number of years to accelerate a student, Gold stated: "There is almost universal agreement on two years at the upper limit of acceleration prior to college."[174] Witty felt that it was generally accepted that two years acceleration would not be undesirable for very capable young people.[175] Terman and Oden concluded:

> It is our opinion that nearly all children of 135 I.Q. or higher should be promoted sufficiently to permit college entrance at the age of 17 at least and that the majority of this group would be better off entering at age 16.[176]

Ability Grouping. Historically, programs for the academically talented shifted from an emphasis on accele-

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[172]James R. Hobson, "High School Performance of Underage Pupils Initially Admitted to Kindergarten on the Basis of Physical and Psychological Examinations," Educational and Psychological Measurement 23 (Spring 1963): 159-165.

[173]M. Hiskey, "Twelve Years of Early Admission in Nebraska," Early School Admission for Mentally Advanced Children, ed. Maynard Reynolds (Reston, Va.: Council for Exceptional Children, 1962), p. 50.

[174]Gold, Education of the Intellectually Gifted, p. 338.

[175]Paul Witty, "Twenty Years in Education of the Gifted," Education 88 (September 1967):6.

[176]Lewis Terman and Melita Oden, "Genetic Studies of the Genius," The Gifted Child Grows Up (Stanford, Calif.: Stanford University Press, 1960), p. 4.

ration to various forms of grouping.

> In 1886, . . . the Elizabeth, New Jersey schools divided their classes into three groups on the basis of achievement. The top group was permitted to progress more rapidly through the curriculum . . .
>
> Santa Barbara, California, in 1898 began ability grouping for bright children, but the emphasis was on broadening the students' experiences rather than encouraging them to progress more rapidly through the curriculum . . . although many forms of administrative organization could be found throughout the country, emphasis shifted to broadening the program through special classes.[177]

"The second period beginning at the turn of the century received considerable impetus from the introduction of intelligence tests."[178]

Shane listed and discussed thirty-two plans in different grouping forms that have been initiated, discarded, modified, or gradually accepted within what has been known as grouping in the educational sense.[179]

Findings on grouping of the academically talented students have been somewhat contradictory with evidence reported as being inconclusive. Payne reported the following:

> Although the research results on ability grouping are somewhat contradictory, there is sufficient number of studies indicating that the gifted benefit from such a program to provoke further investigation.[180]

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[177]Durr, The Gifted Student, p. 9.

[178]Freehill, Gifted Children, p. 190.

[179]Harold G. Shane, "Grouping in the Elementary School," Phi Delta Kappan 41 (April 1960):313-318.

[180]Payne, "The Gifted," p. 198.

The NEA Research Division polled a nationwide sample of elementary and secondary teachers and found a two-to-one preference for ability grouping among the elementary teachers.[181] Gold reported the following:

> Almost without exception, professional and lay advocates of intensified programs for the gifted call for ability grouping. On the other hand, many leaders of the educational profession in universities and school systems emphatically oppose ability grouping on social and philosophical grounds.[182]

One of the most definitive and comprehensive studies on the impact of grouping in elementary education was pursued by Goldberg, Passow, Justman, and Hage. This study was conducted within the New York City public schools involving 2,200 students in eighty-six fifth grade classes in forty-five elementary schools. Various patterns of ability grouping were arranged and maintained this status over a two-year period. Broad and narrow range ability groups were evaluated on: academic achievement, self-concept, school attitudes, social acceptance with peers, and teacher ratings.

Findings were:

> There were no advantages for the narrow range ability-grouped talented students. In some instances, more gains were made by the students in the broad range groups.

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[181]National Education Association Research Division, "Teacher Opinion Poll," National Education Association Journal 4 (April 1961):62.

[182]Gold, Education of the Intellectually Gifted, p. 299.

> No support was found indicating that grouping caused negative effects on attitudes or interests measured in the study.
>
> Researchers concluded that merely changing the ability grouping within a class and not changing the curriculum and methods of teaching could not expect to find substantial changes.[183]

Smith claimed that talented students grouped for instruction generally show greater academic achievement than other talented who were placed in heterogeneous groups.[184] Dunlap reported junior high school achievement as being higher in talented students when grouping was provided at the elementary level.[185]

Bristow conducted a study of forty elementary schools consisting of eighty fifth grade classes which were grouped for reading levels. He concluded that grouping by reading range might be superior to that of grouping with using IQ as a basis for grouping.[186] Gowan and Torrance stated: "The most effective types of grouping appear to be

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[183]Miriam Goldberg, A. Henry Passow, Joseph Justman, and Gerald Gage, The Effects of Ability Grouping (New York: Teachers College Press, 1966), pp. 150-169.

[184]Harold C. Smith, "A Summary Report of Experimental Classes for Gifted Children: St. Louis Public Schools," Educating the Gifted, ed., Joseph L. French (New York: Henry Holt & Co., 1959), pp. 490-493.

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

[186]W. Bristow, The Gifted Child in New York City Schools (New York: Bureau of Curriculum Research, 1959), pp. 1-25.

those based on clearly differentiated levels in a specific skill such as reading groups."[187]

Goldberg's study illustrated the importance of the teacher in working with grouping of the talented students. Talented underachievers were grouped with a consistently interested and supportive teacher. The achievement of these students exceeded another group who had previously achieved much higher than the underachievers. The next term the students were placed with a successful teacher but nonsupportive with results of very low achievement. The following term the supportive teacher returned to the group with a marked increase in achievement.[188] Gowan and Torrance noted: "Grouping may be necessary but it is not a sufficient procedure for it is what happens in class, not how the class is grouped, that counts."[189]

Byers reviewed available studies on the influence of ability grouping on social and emotional development of the talented student which continued to be of a concern to parents and educators. Her findings were that talented students did not reveal negative social and emotional

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[187]Gowan and Torrance, Educating the Ablest, p. 41.

[188]Miriam L. Goldberg, et al., "A Three Year Experimental Program at DeWitt Clinton High School to Help Bridge Underachievers," High Points 41 (January 1959): 5-35.

[189]Gowan and Torrance, Educating the Ablest, p. 41.

development as a result of ability grouping.[190] Parents and educators have questioned the use of ability grouping and the influence on the talented student's self-concept. A study by Drew indicated that the self-concept of talented students did not increase when they were grouped. It also noted that the self-concept of other students either remained stable or increased when the talented students were taught separately.[191] A discussion by Gallagher revealed:

> They fear that the students may become snobbish or may have an inflated ego, or that the singling out of these students for special attention may generate hostility towards them from average or below average students. What evidence that is available shows that such fears are not well grounded . . . a study by Passow and Goldberg (1962) indicated that when bright students were moved from broad-to-narrow-ability range groups, their self-estimate tended to go down. Instead of fostering snobbery and conceit, membership in the special class tended to 'take the gifted student down a peg.'[192]

A less accepted form of grouping by teachers and students in the form of separate or segregated classes for extended periods or all day was discussed as:

> Gifted students . . . stated that they do not wish to be segregated from other students. Instead they approve of a system whereby they are separated

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[190]Loretta Byers, "Ability Grouping: Help or Hindrance to Social and Emotional Growth," School Review 69 (1961):449-456.

[191]Elizabeth M. Drews, The Effectiveness of Homogeneous and Heterogeneous Ability Grouping, Michigan State University, May 9, 1961. Mimeographed.

[192]Gallagher, Research Summary on Gifted Child Education, p. 89.

only part of the time each day. By and large, teachers concur with this position.[193]

Durr summarized evidence on special classes as a form of grouping.

> . . . special classes are not inherently detrimental to the mental growth or personal adjustment of the gifted . . . A blanket commendation, or condemnation, for special classes for all gifted students in all situations would be equally indefensible.[194]

Separate schools for the talented were discussed by Lyon.

> Where everyone is unusual, no one is unusual--the argument goes--and a person emerging from such a cocoon is likely to find himself incapable of dealing with the realities of the everyday world of work.[195]

An Illinois grouping method used in a study by Miller concluded the following: "While it appears that there are no great advantages, academically speaking, to any particular plan, as measured by the usual achievement tests the effect of assisting pupils to use potential wisely certainly favors grouping."[196]

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[193]U.S. Commissioner of Education, "Analysis of Hearings Held by Regional Commissioners of Education on Education of Gifted and Talented," Education of the Gifted and Talented, p. 165.

[194]Durr, The Gifted Student, p. 83.

[195]Harold C. Lyon, Jr., "Talent Down the Drain," American Education (October 1972):2.

[196]Vera Miller, "Education of the Gifted," American School Board Journal 139 (September 1959):66.

Martinson's "Research on the Gifted and Talented" summarized grouping.

> From all of the available evidence, some kind of grouping, accompanied by quality control, well prepared teachers and staff members, consultant assistance, and careful evaluation, is needed to nurture the abilities and talents of the gifted. Special grouping and planning, carefully conceived and executed, provide opportunities for the gifted to function at proper levels of understanding and performance.[197]

Enrichment. DeHaan and Havighurst revealed the decline in ability grouping after 1930. They stated:

> . . . Several critical studies of homogeneous grouping indicated that the high ability groups were not achieving as close to their ability level as were the average ability groups.
>
> Gradually there appeared a number of programs in which enrichment rather than acceleration was the aim and which were designed for children in the upper 2 to 5 per cent of intellectual ability. Hollingworth set up a school with special classes for the gifted. In Cleveland the major work classes were started.[198]

During the 1930's and 1940's there were a few programs providing enrichment in special classes for the gifted, and there was increasing attention given to enrichment for able pupils in the regular classroom.

Kaplan characterized and elaborated on enrichment as a means of structuring learning opportunities for the talented students.

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[197]Ruth A. Martinson, "Research on the Gifted and Talented: Its Implications for Education," U.S. Commissioner of Education, Education of the Gifted and Talented, p. A46.

[198]DeHaan and Havighurst, Educating Gifted Children, p. 12.

> Enrichment must be considered as an integral part of curriculum development and the organizational structure. It is not, therefore, to be treated as a singular dimension of a program but rather as the fundamental feature of all programs.[199]

Concerning the use of enrichment as an administrative design, Freehill reported:

> Enrichment without acceleration has been favored by most administrators and by most teachers. Perhaps this endorsement was merely in avoidance of plans that require segregation or acceleration. Obviously, the great danger is that enrichment activities will degenerate into busy work.[200]

Gowan and Demos felt the best means to make true enrichment possible for the talented students were as follows: "The enrichment of education for the gifted, employing either grouping or acceleration is probably the way in which enrichment is most effective . . ."[201] Qualities of the educators involved in this design were discussed by Kough. "Success or failure of classroom enrichment on the elementary level depends largely on the enthusiasm, ingenuity, and interest of the teacher and administrator."[202]

Rice proposed an enrichment model as he looked at existing programs and presented the following approach:

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[199]Kaplan, Providing Programs for the Gifted and Talented, p. 129.

[200]Freehill, Gifted Children, p. 216.

[201]Gowan and Demos, Education and Guidance of the Ablest, p. 138.

[202]Kough, "Administrative Provisions for the Gifted," Working With Superior Students, p. 150.

> The Enrichment Model. Relying on the typical curriculum as a skeletal structure, the main thrust of enrichment programs is supplementation. The supplemental content may take one of two main forms:
>
> (1) additive knowledge which embellishes upon basic concepts (so-called horizontal enrichment) or
>
> (2) qualitatively different or advanced topics not ordinarily dealt with at a given grade level (so-called vertical enrichment). This model represents the only compromise between general and special education.[203]

Limited or no research results were found in the literature that substantiated a superiority of the enrichment design. Gallagher concluded:

> Research evidence for the efficacy of enrichment over a normal program is not widely available. Where it has been done . . . more personnel are available than is usually the case in the ordinary system claiming to use this method.[204]

Kough's evaluation of classroom enrichment was: "Since it is difficult to measure the effectiveness of a classroom enrichment program, this technique has sometimes been called an educational smoke screen."[205]

Baldauf presented experimental evidence of a study he conducted with ninety-five students with IQ's of 125 or higher in grades four through seven. Inservice training

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[203]Rice, The Gifted, p. 217.

[204]Gallagher, Research Summary on Gifted Child Education, p. 81.

[205]Kough, "Administrative Provisions for the Gifted," p. 146.

for teachers was given and special curriculum materials were part of the study. Some significant differences in achievement were noted but inconsistent from grade to grade.[206]

A comprehensive study on concentrated enrichment in the classroom was reported as follows:

> Gallagher, Greenman, Karnes, and King (1960) reported an attempt to provide classroom enrichment for children of very high intellectual ability (Binet IQ 150+) within the framework of the regular elementary classroom . . . A case study was executed on each of the 54 children who qualified for the study. Extensive tests, parent interviews, teacher interviews, and measures of social and emotional adjustment were all used . . .
>
> These investigators found little difference between the before and after expected achievement scores for either the total group or for those special children for whom academic recommendations were made. . . . the teacher and parents both observed increased motivation and interests in the children who were included in the study.[207]

Witty supported enrichment but concluded:

> . . . Such efforts are relatively few and are often overshadowed by interest in administrative procedures. . . . Extension and enrichment of experience are necessary . . . They constitute . . . one of the most significant practical means of helping the gifted child in the elementary school.[208]

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[206]Robert J. Baldauf, "A Comparison of the Extent of Educational Growth of Mentally Advanced Pupils in the Cedar Rapids Experiment," Journal of Educational Research 52 (January 1959):181-183.

[207]Gallagher, Research Summary, p. 82.

[208]Paul Witty, "The Gifted Child in 1967," Educating the Ablest, p. 10.

Kough recommended the following yardsticks to determine whether a school has approached what he described as an organized enrichment program.

1. Has each classroom teacher identified and listed the students who are gifted? If teachers are unable to do this, a well-planned classroom enrichment program is not operating. If only some of the teachers have done it, the gifted child program is not reaching all of the gifted youngsters in the school.

2. Can each classroom teacher describe the specific curriculum modification being made for each bright youngster? Again, if each teacher cannot do this, there is not a complete classroom enrichment program.

3. Does some person have supervisory responsibility for the entire program? Such a person may help classroom teachers in the identification process and provide motivation, ideas, and materials as the program progresses.[209]

Differentiated Curricular Modifications

Gallagher identified two major trends which have influenced the curriculum for the academically talented students over the past quarter of a century.

> . . . There has been the tremendous explosion of knowledge in the area of sciences and a new emphasis on creativity. In many fields of endeavor, more knowledge has been accumulated in five or ten years than had previously been recorded in all of human history.[210]

Parker and Rubin discussed the character of curriculum change:

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[209]Jack Kough, Practical Programs for the Gifted (Chicago: Science Research Associates, 1960), pp. 8-9.

[210]Gallagher, Teaching the Gifted Child, p. 74.

. . . Between the relatively dramatic upheavals occurring in the 1890's, the 1930's, and the 1950's, the interim periods were essentially an elaboration of the ideas responsible for the preceding revolution. The curriculum of necessity has grown up under the American system of educational autonomy with its deference to the public will and social crisis, and as a consequence a different history probably could not have been written.[211]

Goodlad discussed curriculum reforms on the past as:

During the 1950's, pre-collegiate curriculum reform in the academic disciplines was concerned almost entirely with mathematics and the physical and biological sciences. The scientific emphasis increased markedly in 1957 . . .

The school curriculum by 1962 was seen by many to be approaching an imbalance. And two years later the writer was still unable to identify and report curriculum rejuvenation of a substantial sort in the social sciences, English, and the arts. By 1966 the social sciences were at the stage the natural sciences had been nearly a decade before . . .[212]

DeHaan and Havighurst summarized the curricular changes as they applied to the talented students.

. . . Mathematics has come under the scrutiny of professional mathematicians, some fundamental innovations are being experimented with in order to improve the scientific training of gifted students. Changes in the science education curriculum have been primarily in the nature of acceleration . . . foreign language curriculum have also been in response to our growing

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[211]J. Cecil Parker and Louis J. Rubin, Process as Content: Curriculum Design (Chicago, Ill.: Rand McNally & Co., 1966), p. 14.

[212]Goodlad, The Changing School Curriculum, p. 21.

> awareness of our position of leadership in the world . . . social studies curriculum to include non-Western cultures . . .[213]

Common practices found in the curricular experiences for the academically talented students of today were described as:

> Programs and methods are often dictated by exigencies, sporadic attention, and highly localized beliefs. Under these conditions, which are prevasive, many of the programs for gifted minors are fragmentary. They are intensifications or extensions of the general curriculum. Departures into carefully planned adaptations of established curricula are few.[214]

Predicated upon the recognition of the common practices found in many schools, Parker and Rubin made the following suggestion:

> There is much to indicate that the deliberate separation of content, assigning different material to different ability levels, is the only reasonable way of providing for individual difference. The curriculum should be arranged so that all students travel whatever gait, and for whatever distance is most appropriate to their unique capacities.[215]

Program planners who have contributed to written plans for these special students have presented this rationale.

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[213]DeHaan and Havighurst, Educating Gifted Children, p. 90.

[214]California, State Department of Education, Principles, Objectives, and Curricula for Programs in the Education of Mentally Gifted Minors, (1971), p. 10.

[215]Parker and Rubin, Process as Content: Curriculum Design, p. 21.

> The key to providing education for the gifted is to break up the rigid procedures that impose the same curriculum, the same schedule, and the same class assignment on every youngster regardless of his aptitudes and maturity.[216]

Martinson attempted a variety of approaches in a recent study of a thousand talented students in a statewide study. Results were:

> . . . the kindergarten group on the average performed at a level comparable to that of second grade children in reading mathematics. The average for fourth and fifth grade gifted children in all curriculum areas was beyond that of seventh grade pupils. Nearly three-fourths of the gifted eighth grade pupils made average scores equal to or beyond the average of 12th grade students on a test battery in six curriculum areas.

These highly significant gains were attributed to preservice and inservice preparation of teachers, consultant assistance, appropriate learning opportunities, use of community resources, effective inter-school liaison, and close cooperation with parents.[217]

Views presented through the Advocate Survey contained recommendations by 204 experts on curricular provisions for the talented.

> The need for gifted and talented children to experience opportunities for complex, creative thought, with content appropriate to their level of functioning, was seen as important or essential by nearly all of the advocates . . .

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[216]Lyon, The Other Minority, p. 3.

[217]Martinson, "Research on the Gifted and Talented," p. 81.

> The advocates favored a distinctly differentiated curriculum for the gifted, designed to accommodate higher levels of functioning in the cognitive and specialized talent domains. Over 90 percent also favored special administrative arrangements to permit such differentiation.[218]

"To teach what is not known for sure can be far more appropriate education for abler students than dull and often obsolescent 'certainties'."[219]

Kaplan elaborated on certain principles and essential concepts which needed to be kept in mind in developing curricular activities.

> Curriculum for the gifted and talented can only be marked as such if it encompasses elements which distinguish it from being suitable for the education of all children. Curriculum for gifted students must be congruent with the characteristics that identify them as a distinct population. The answer to the question of why a student is gifted or talented is also the answer to the question of what type of curricular provisions should be developed for this child.[220]

Bruner saw this task as not being an easy one by stating: "We have no illusions about the difficulty of such a course, yet it is the only one open to us if we are to pursue excellence and at the same time honor the diversity of talents we must educate."[221]

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[218]Martinson, "An Analysis of Problems and Priorities," pp. B 15-16.

[219]Virgil S. Ward, "The Function of Theory in Programs for the Gifted," Teachers College Record 62 (April 1961):535-539.

[220]Kaplan, Providing Programs for the Gifted and Talented, p. 123.

[221]Bruner, Process of Education, p. 70.

Rice recommended the following three ingredients in curriculum construction for the talented students:

1. descriptive educational models which combine the goals of education with a valid picture of the learner;

2. appropriate teaching methodologies designed to implement the goals of the educational model adopted; and

3. subject matter content, sequences, and related materials which are tailored to the educational model and teaching methodologies used.[222]

Theoretical models from which principles for the development of curriculum for the talented students have been derived were:

1. J. P. Guilford's "Structure of the Intellect" model
2. B. S. Bloom's Taxonomy of Educational Objectives
3. J. S. Bruner's Process of Education
4. Frank Williams's Cognitive-Interaction Model

In applying these descriptive educational models to curriculum development and teaching methodology, Rice singled out these approaches by saying: ". . . in particular, the works of J. P. Guilford, B. S. Bloom, and J. S. Bruner have proven adaptable for the production of working curriculum models for the gifted . . ."[223]

One theoretical model was a fairly recent entry to the literature named Williams's Cognitive-Affective Interaction Model. This model was explained as providing the following direction:

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[222]Rice, The Gifted, p. 152.

[223]Ibid., pp. 160-161.

> It has been used as a working structure for curriculum planning and as an instructional system to improve teacher competencies through in-service training at projects across the country . . .
>
> The model is also being adopted by one state department of education program for gifted and talented youth by changing the content dimension since such children are in need and capable of handling different subject areas other than the regularly established curriculum.[224]

Rice evaluated an approach to organizing knowledge and its wide use in curriculum construction in these special programs:

> Summarizing the Taxonomy of Educational Objectives, it is probably the most useful currently available tool for evaluating and constructing curriculum according to an empirically valid framework of learning experiences . . .
>
> The Taxonomy has been used widely for analyzing existing curriculum, initiating commonality in teacher communications, suggesting examination items, indicating questions teachers might pose to students, and initial planning of new curriculum to accomplish logical and comprehensive coverage of topics and intellectual skill development.[225]

A theoretical model which helped to conceptualize intelligence was called Guilford's Structure of the Intellect. Guilford's cubical model presented the components and classifications of the intellectual factors. Implications for ways Guilford's Model can be used in the talented programs were:

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[224]Frank E. Williams, "Models for Encouraging Creativity in the Classroom," Educating the Ablest, p. 231.

[225]Rice, The Gifted, p. 172.

> J. P. Guilford's Structure-of-Intellect theory has greatly broadened our view of intelligence by establishing that intelligence is composed of 120 different factors and is not composed of just one or a few global, general types of ability as was previously supposed. Not only does this help to explain individual profiles of strengths and weaknesses in intellectual areas, but it also has many implications for curriculum development for gifted and talented pupils.[226]

Kaplan discussed the teaching-learning models and how they can be utilized with the academically talented programs:

> The teaching-learning models provide a structure which presents a scheme and elements for either developing or presenting a learning experience . . . No one model needs to be used to the exclusion of all others. The idea is to adapt, modify, and combine those elements from the models which best exemplify a means to reach the end result of working with the gifted and talented.[227]

One set of guidelines presented the two-part version of the curriculum when blending of product and process.

> Product focuses on the subject matter, the facts, concepts, and generalizations of various disciplines. In-depth and open-ended exploration of special interests is encouraged, both in the form of independent study and in more highly structured sequences of instruction. Areas not usually covered in traditional courses of study may be included . . . The key factors in the selection of content are intellectual challenge, stimulus to the exploration of further knowledge, and understanding of broadly applicable concepts.

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[226]Connecticut, State Department of Education, Curriculum Guidelines for the Gifted and Talented, (1974), p. 5.

[227]Kaplan, Providing Programs for the Gifted and Talented, p. 94.

> Process refers both the development of skills in retrieving and applying knowledge and to the improvement of intellectual processes. The first area includes study skills and use of resources and is aimed at helping gifted children become effective independent learners. The second area focuses on the enhancement of intellectual operations, especially the higher cognitive processes in which the gifted typically show so much potential.[228]

Assessment of Students

Assessment procedures for student performance has received very limited discussion in the literature. The reporting forms that were a part of the coverage were available as check lists or rating scales for evaluating student behaviors rather than using the traditional "report cards."

Attempting to relate the student's progress to program evaluation, Florida's state plan stated:

> Once a student is accepted into a program there should be a periodic diagnosis of the student in terms of capability, performance, interests, and motivation. The results, of course, would have a bearing upon lessons and program evaluation.[229]

Rice supported this when he suggested compilation of a thorough and descriptive case study be assembled and maintained on each student.

> Any placement should be considered tentative, and periodical follow-up should be made concerning

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[228]Connecticut, Curriculum Guidelines for the Gifted and Talented, p. 1.

[229]Florida, Florida's State Resource Manual for Gifted Child Education, p. 28.

his progress. The certification committee cannot consider its job complete when it has placed the pupil in a program. An extensive follow-up and evaluation process typically utilizes attitude scales, indexes of satisfaction, objective tests, and other measurements of the pupil's growth in academic proficiency . . .

A main purpose of the case study aspect . . . should be to continue to collect data on a systematic and periodic basis in order to provide feedback for program modification and a basis for pupil progress evaluation. Such data provide for individual pupil evaluation and collectively form the basis for total program evaluation.[230]

Williams listed examples of diagnostic and assessment techniques for use with the academically talented students.

Individualized conferences, counseling, and tutoring;

Group counseling;

Rap sessions, peer counseling, magic circle;

Psychological tests, examinations and inventories;

Sociograms;

Systematic reporting for students, parents, and school personnel.[231]

North Carolina explained their reporting system as being in a "fluid stage" at the time the description of their academically talented programs was released. The comments were as follows:

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[230]Rice, The Gifted, p. 75.

[231]Frank Williams, A Total Creativity Program (Englewood Cliffs, New Jersey: Educational Technology Publications, 1972), pp. 1-16.

> Within many school administrative units, the A, B, C, type of grading is being replaced by other types of evaluation: (1) Superior, does good work consistently; needs improvement; (2) written evaluations; Honors--Pass--Fail . . . children are not penalized if their grades do drop because their records will show which grades were earned in an advanced ability class.[232]

Instructional Facilities and Materials

There were very few references which referred to physical facilities, materials, or equipment for specific use in the academically talented programs. DeHaan and Havighurst presented the following rationale on the use and importance of library facilities:

> The library is not only repository for the tradition of the culture in literary, historical, scientific, and artistic treasures, it is also an important place to learn special techniques such as independent study and research. The library not only helps fill out the student's fund of knowledge and information but also helps him develop techniques for further increasing his fund of knowledge.[233]

Merits of libraries and laboratories were discussed by a large-scale study as follows:

> Good libraries and laboratory space in schools are highly desirable, with open areas for special projects and study. Even with good libraries and adequately stocked laboratories, it is necessary to use auxiliary resources and materials, if the special interests of the gifted are to be met.

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[232]North Carolina, Information Concerning the Program for Gifted and Talented, p. 3.

[233]DeHaan and Havighurst, Educating Gifted Children, p. 266.

> Special programs have been restricted in their success because of limited facilities.[234]

Equipment necessary and desirable for the academically talented programs along with other special materials were discussed by Gowan and Demos.

> Rooms where curriculum enrichment for gifted children take place need to have the flexibility with modern architectural practice provides for education. The chairs should be moveable with a teacher's desk forward and in the rear. There should be a speaker's rostrum, tables for group work, numerous space for books, projects, bulletin boards, globes, science materials, easels, displays, collections, and creative work. A typewriter is desirable. Probably the most important items are an easy access to books and library resources. While most well appointed schools will have these articles, it is important that gifted child programs not be started without them.[235]

Audio-visual materials were mentioned as an asset in learning materials for these programs. DeHaan and Havighurst reported:

> Audio-visual material has to be geared to the mental capacity of the students . . . The kinds of audio-visual materials available will vary with the type of school and community. Maps, globes, charts, and graphs are particularly adapted to the interest of advanced or gifted students.[236]

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[234]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 42.

[235]Gowan and Demos, Education and Guidance of the Ablest, p. 369.

[236]DeHaan and Havighurst, Educating Gifted Children, p. 267.

Communication Channels

Parker and Rubin clarified the need for effective sources of communication regarding programs and changes in the public schools. "The point is an important one because it once again demonstrates that the professional educator never will come to the sheltered path where public attitude, informed or not, can be ignored."[237]

Rice made the following suggestions concerning the initial steps in opening channels of communication to the parents and the community at large when a new program is being implemented:

> Some of the problems which inhibit talented selection programs might be avoided if educators planned to disseminate community information well in advance of program inception. The public is not as acquainted with the varied nature of talent, as they are about the handicapped. Resentment for talented programs could be reduced by intensive public information promotions.[238]

In elaborating on the importance of the communication channels to these programs, the place of parents and the home in influencing the direction of the developing student were noted.

> Parents and their vehicle, the home, have always formed the foundations of civilization. Societies in which the family has succeeded have generated codes and freedom, heritage and innovation, and individuality and cooperation in delicate balances. Societies in which the family has failed have led

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[237]Parker and Rubin, Process as Content, p. 15.

[238]Rice, The Gifted, p. 60.

to extremes such as intolerance, indifference and absolutism.[239]

Focusing on the talented student, Freehill noted the dynamic influence of the home and school working together:

> Planning for children of superior ability must be guided by the realization that a first sense of security, a first determination of values, a first pattern of thought, and a first setting of goals comes from the home. These are modified, enlarged, and enriched by school experiences but they are not supplanted.[240]

Case studies of fifteen schools produced the following description of communication with the community and suggested the following:

> . . . early direct two-way participation in the planning process and then in the operation of the school greatly enhances community support. Most schools found, however, that they also needed a process for regular sharing of information about the school with parents and the community-at-large . . .
>
> Some of the specific ways planning groups and operational programs communicated included:
>
> 1. Visits to each of the families of the students.
> 2. Carefully arranged small group visits of parents to the school . . .
> 3. Seminars and workshops for parents.
> 4. Use of the media: newspapers, radio, and television . . .
> 5. Frequent public meetings to explain the program.
> 6. Written descriptions of the plans and of the school's program.

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[239]Ibid., pp. 88-89.

[240]Freehill, Gifted Children, p. 353.

7. Slide tapes, video tapes, and movies of the program available for free showing anywhere in the community.

8. A speakers' program available to community groups.[241]

Even though it was recognized that parents make up the greater part of the community, there are times when community efforts and understanding play a vital role in these programs.

> In a time of rapid technological change that, in turn, encourages just as rapid a change in the school's educational programs, community understanding is vital. The publics generally are suspicious of new instructional programs. Most adults view education in terms of what they experienced in their youth. An innovation may be considered a frill, and therefore unnecessary.[242]

Authorities have felt that implications of these views have penetrated the community and its overall acceptance of programs for the academically talented. "It is without question that there is a dire need for mass education of the public regarding the importance of providing not just adequate but the very best services money can buy for the gifted. With understanding, hopefully, will come support."[243]

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[241]Council for Exceptional Children, It Works This Way for Some: Case Studies of 15 Schools, a Report Prepared by the Illinois Network for School Development (Chicago, Ill.: Office of the Superintendent Public Instruction, 1973), p. 5.

[242]James R. Marks, Emery Stoops, and Joyce K. Stoops, Handbook of Educational Supervision (Boston: Allyn & Bacon, Inc., 1971), pp. 748-749.

[243]Payne, "The Gifted," p. 206.

Financial Allocations

The literature contained meager discussion on the subject of cost and budgeting for these programs. Gowan and Demos attempted to explain why it was difficult to find this subject in the literature: "It is idle to speculate on the reasons for this lack, possibly it is because administrators often bootleg costs and are unwilling for them to appear in print."[244] Gowan and Torrance suggested other reasons for lack of discussion on this topic as:

> Sometimes, additional costs can be absorbed into the regular budget, in such ways as the time of the counselor, the extra use of library or laboratory equipment, more consumption of supplies, etc. Some provisions, such as enrichment, grouping or acceleration in certain forms may not result in any extra cost.[245]

Listed among the major costs of a program for the academically talented students were the following categories:

1. Identification, including testing, counseling, etc.
2. Curriculum adjustment, including staffing and materials.
3. Social services, including guidance, administrative, transportation, capital outlay, secretarial help, evaluation, reporting, public relations, and the like.[246]

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[244]Gowan and Demos, Education and Guidance of the Ablest, p. 369.

[245]Gowan and Torrance, Educating the Ablest, p. 42.

[246]Ibid., p. 43.

The literature explained that costs would vary from district to district where these special programs were involved:

> It is impossible to say how much of a school budget should be allocated to the special education of gifted children. Obviously some provisions are far more expensive than others and may be beyond the reach of many school systems at the present time.[247]

"It is conceivable that little or no expense in one district might produce a program far superior to a costly one in another district."[248]

One authority gave an estimate of the cost of a program for the talented. "Rough estimates of the cost of programs for the gifted cluster around 1 per cent of the total school budget."[249] According to another source, an estimate was mentioned: "In more general terms, cost per gifted child should be about half to three quarters the cost of educating an exceptional child in the same district."[250] Rossmiller, Hale, and Frohreich completed a recent survey which indicated programs for

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[247]Southern Regional Education Board, The Gifted Student: A Manual for Program Improvement, p. 77.

[248]Gowan and Demos, Education and Guidance of the Ablest, p. 375.

[249]DeHaan and Havighurst, Educating the Gifted Child, p. 263.

[250]Gowan and Torrance, Educating the Ablest, p. 45.

talented students cost less than one hundred dollars per student above the regular program.[251]

There were only estimates of program costs discussed in the literature. "Until basic cost data can be accumulated from a statistical search only estimates based on local and State experience can be used."[252] One study stated that an optimal program has not been funded.[253]

Gallagher singled out the lack of immediate measured evidence from programs in existence which created problems for funding:

> It has been hard to make a dramatic case for the measurable value of education of gifted children to the school economist and guardian of tax funds proud of getting $1.10 worth out of each $1.00 spent by the citizens on his schools. The immediate payoff of such personnel additions as remedial reading specialists, speech correctionists, or psychologists hired to treat emotional problems of students is fairly obvious. What is not obvious, or wholly measurable, is what has been lost through not increasing the quality of the educational program for gifted students.[254]

Program innovators who were working with new projects tended to be emphatic about their financial needs and problems with funding. One stated the following:

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[251]Richard A. Rossmiller, James Hale, and Lloyd E. Frohreich, Educational Programs for Exceptional Children: Resource Configurations and Costs (Washington, D.C.: National Education Finance Project, 1970), p. 127.

[252]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 44.

[253]Ibid., p. 43.

[254]Gallagher, Research Summary on Gifted Child Education, p. 2.

"You've got to remember that money is absolutely vital first; without the money you've got nothing. Without the money, you can't even maintain what you get, because inflation eats up what you've got."[255]

A participant in a study of talented programs placed the quality of programs and the cost factors involved in perspective.

> Pouring great sums of undirected money into a school system will not automatically guarantee better education for the gifted.[256]

> To a very large extent I believe that one of the greatest barriers to action is the mistaken notion that you can solve problems by massive infusions of money into school systems. I don't think you can. I think you have to solve them in terms answering some pretty basic questions about what good education is and what kind of education is needed. It's the day-by-day associations that students have with one another and with teachers where critical differences come. A lot of times what needs to be done is not to introduce lots of equipment and specialists into the system, but to change the attitudes of the people who deal with children every day. And we need to teach people to make use of their own potentialities--not only the youngsters we call gifted, but also the school system that they're in . . . I'm not saying we need no money at all, but we can spend less than we're spending on football shoes every year and still do a vastly better job for these kids than we're doing now.[257]

Lyon also approached these challenges by noting:

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[255]James Gallagher, ed., Talent Delayed--Talent Denied: A Conference Report, p. 23.

[256]Ibid., p. 24.

[257]Ibid., p. 25.

> In this era of failing school-bond levies, increasing competitiveness for available school funds, and national economic uncertainty, however, the advocates of special programs for the gifted must exercise at least as much prudence as enthusiasm. A great deal can be done now with presently available resources--facilities, funds, personnel, and materials.[258]

Emphasis on identifying existing sources, i.e., foundations, groups, organizations, that could supply money in providing programs were found in the more recent literature.

> Private resources offer the means for providing a "healthy mix" in education through complementing the public programs, and have often been used to support prototypes which are later widely adopted. The margin of flexibility of this pluralistic approach is the very reason that there is a tremendous need for stimulus and investment by the private sector in program initiatives for the gifted and talented.[259]

Marland presented an explanation of financial assistances that were available without waiting for legislative changes or new appropriations.

> We are encouraging the productivity of these special educators by helping them to capture money for their programs either from private and state sources or from such Federal sources as the Elementary and Secondary Education Act. Title III of that act, which provides money for innovative projects and demonstration projects may be used for programs for gifted children. So may Title I money, which must

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[258]Lyon, The Other Minority, pp. 8-10.

[259]Personal communication to those with extensive experiences in talented education from Jane Case Williams, Deputy Director Education of the Gifted and Talented, Washington, D.C., 1974.

> go to educationally deprived children in areas with high concentrations of poor people. Title V money, which is for strengthening state departments of education, is also available.[260]

"States have made little or no use of Federal funds for the gifted. Without special and definite designation of fund use for the gifted and talented, it is not likely they will."[261]

In summary, available evidence indicated a philosophical approach to justify financial investment in these programs.

> If the spending of extra money for mentally retarded children can be justified on the basis of their special needs (and we believe it is), then comparable expense is justified for the child at the other end of the scale. This also leads to the conclusion that financial support from the state in addition to the local district is needed.[262]

Administrative Evaluation

Inherent within an academically talented program is a need for an evaluation plan which covers the overall program and through the various stages of its development. Renzulli emphasized the need for this type of program evaluation as a matter of support and survival of special provisions for the academically talented students. "The

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[260]Marland, "Our Gifted and Talented Children," pp. 16-19.

[261]Martinson, "Analysis of Problems and Priorities," p. B26.

[262]Gowan and Demos, Education and Guidance of the Ablest, p. 375.

need for program evaluation in gifted education has grown out of a general concern on the part of decision makers for greater accountability in all aspects of education."[263] The need for evaluation of these programs was noted by another source. "Programs for the gifted will require constant planning, expansion, increasing diversity, and creative modes of evaluation, if they are to succeed and continue."[264]

Specific objectives have helped to give direction to the actual design of an evaluation. Renzulli stated:

> . . . an evaluation should be 'diagnostic' in the sense that it pinpoints by careful examination the circumstances and conditions that result in identifiable changes in performance, attitude, or other indicators of program effectiveness. In order for an evaluation to play a constructive and positive role in the overall process of education, it should attempt to fulfill as many of the following objectives as possible:
>
> To discover whether and how effectively the objectives of a program are being fulfilled.
>
> To discover unplanned and unexpected consequences that are resulting from particular program practices.
>
> To determine the underlying policies and related activities that contribute to success or failure in particular areas.
>
> To provide continuous in-process feedback at intermediate stages throughout the course of a program.

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[263]Joseph S. Renzulli, A Guidebook for Evaluating Programs for the Gifted and Talented (Ventura, Calif.: Office of Ventura County Superintendent of Schools, 1975), p. 1.

[264]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 110.

To suggest realistic, as well as ideal, alternative courses of action for program modification.[265]

Shannon discussed reasons for program evaluations from the very beginning stages of program development.

> . . . since evaluation is impossible unless planned for at the outset, the plan will necessarily include a clear statement of objectives . . . there must be some means of evaluating instructional procedure or methodology . . . evaluation points up areas of the program that need improvement and provides a sound justification for curriculum changes.[266]

Gallagher felt that evaluation of the academically talented programs calls for:

> . . . someone with some knowledge and sophistication in the area of measurement to help plan the evaluation. School systems without staff members who can help in this area should seek adequate consultant help before embarking on such a program.[267]

Renzulli described techniques and evaluation models used for evaluating academically talented programs. These models were identified by Renzulli as the best known systems developed to date and the only systems developed specifically for programs for the gifted. These models were:

Stake's "Countenance" Model
Sufflebeam's CIPP Model
Provus's Discrepancy Model
Eash's Differential Evaluation Model
Renzulli and Ward's "DESDEG" Model

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[265]Renzulli, A Guidebook for Evaluating Programs for the Gifted and Talented, pp. 5-6.

[266]Gail Shannon, "Evaluating Programs for Superior and Talented Students," Working With Superior Students, p. 342.

[267]Gallagher, Research Summary on Gifted Child Education, p. 80.

Appropriate instruments which represented a synthesis of Renzulli's experiences in working with the gifted and talented programs were available. A variety of these instruments were described as attitude assessments of school boards, teachers, parents, and students toward the academically talented programs, instruments for evaluating inservice training and program operation with follow-up provisions. Renzulli provided a sample contract for professional services between the evaluator and the school system which included a statement of responsibilities from the two parties involved.[268]

Even though progress was being made in evaluation of these programs, the task was revealed as being fraught with difficulties and weaknesses. The problem was disclosed as:

> As the concern for gifted children in the public school becomes more and more evident and as services for these students become more widespread, so does the necessity of identifying sound evaluation instruments continue to grow. It is difficult in a field as young as gifted education to find models for evaluation that are useful in both theory and application . . .[269]

Gallagher alerted educators to pitfalls of working with evaluative techniques which were described as invalid or ineffective.

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[268]Renzulli, A Guidebook for Evaluating Programs for the Gifted and Talented, pp. 17-203.

[269]Connecticut, State Department of Education, "The Eash Model of Evaluation," (1974), p. 33.

1. Effectiveness of a given program cannot be determined by revealing that participants in the program score two to four grade levels above their chronological age on achievement tests. These students have already scored high on these tests.

2. Giving these students achievement tests before the program is implemented and after its completion does not prove the effectiveness of the program. Talented children often gain in the regular program over what is expected of normal children.

3. By obtaining opinions of persons who have been involved with the program, i.e., teachers, parents, and students does not fully demonstrate effectiveness of a program. These opinions should be supported with more objective measures to rule out subjective evaluations which may be subject to conscious or unconscious bias.

4. Benefits of these academically talented programs were not demonstrated by comparing the talented with the other children because average students were not adequate controls in this situation.

5. Programs cannot be adequately evaluated just by showing that academically talented students in this group, even when matched by I.Q. were superior if they have not been matched with other factors. Factors such as motivation are important variables and may affect the outcome of the study.

6. Adequate evaluation cannot be reached if inappropriate measuring instruments are used. Characteristics such as creativity, originality, ability to think critically are usually emphasized in these programs. Traditional tests such as achievement tests do not measure these educational experiences.[270]

Some weaknesses in connection with evaluation of these programs were:

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[270]Gallagher, Research Summary on Gifted Child Education, pp. 77-79.

1. Evaluation procedures which were not planned in keeping with the original objectives of the program.

2. Afterthought evaluations which were not an integral part of the whole program from its very beginning.

3. No provisions for longitudinal study.

4. Lack of qualified evaluators who are acquainted with research techniques.

5. Standardized achievement tests may not measure the variety of learning experiences to which the student has been exposed.[271]

In summary, a state plan noted: "The student's development of a positive self-concept, his actualization of potential, and his contributions to society may very well be the most valid measure of the success of a gifted program."[272]

Implications and future directions for evaluation of academically talented programs were projected by Khatena as:

> The use of sounder evaluation models having its roots in good design and measurement procedures not only aimed at appraising the progress of various programs and projects but also aimed at providing directions for program refinement and growth to ensure both their internal validity as well as generalizability.[273]

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[271]Southern Regional Educational Board, The Gifted Student: A Manual for Program Improvement, p. 82.

[272]Connecticut, State Department of Education, Report on the Task Force on Program Evaluation, (1974), p. 1.

[273]Joe Khatena, "Educating the Gifted Child: Challenge and Response in the USA," paper presented at the World Conference on Gifted and Talented held in London, England, 9th September 1975.

Summary of the Review of the Literature

The review of the literature revealed interdependent program variables which were considered essential features of successful educational programs for academically talented students. The following information relevant to the drawing up of guidelines for designing programs for the academically talented students was noted.

Rationale

Disparate philosophical controversies have plagued programs for the academically talented students. America has valued an equivalent general education for all students but has lamented our national paucity of intellectuals. Since society values unity and diversity simultaneously, progress in educational provisions for the talented has been slow. Renewed interest in programs for the academically talented students comes from an American ideology dedicated to the unique value of the individual along with meeting societal needs. Schools have a task of educating all children while assuming responsibility to each child.

Special education for the academically talented was considered socially mandatory, psychologically sound, and an educational possibility. Philosophy of the talented program should be exclusive to the needs of the academically talented students. It must be inclusive to the appropriate aspects of the parent institution.

Specific statements of objectives which relate to the purposes, practices, and evaluation procedures must be set forth in the philosophy of the academically talented programs.

Identification and Placement of Candidates

Traditionally, intelligence was considered a unitary factor by early measurement authorities such as Binet. Thurstone was among the first to consider a theory of primary abilities. Terman's classic study contributed to scientific knowledge which has continued in use. Mental, physical, social, and emotional development were considered highly favorable in Terman's study of over 1500 intellectually gifted students. Research indicated students of IQ's over 180 plus may have more educational, social, and emotional adjustments to make.

Lack of clear communication and ambiguous terminologies have added conflicts in the identification of the academically talented students. Defining the academically talented student was considered the first vital step in the identification process. Complexities of intelligence and factors such as motivation and interests added to difficulties in the identification task. The identification process should be started as early as the kindergarten level and continued throughout the school career.

The academically talented students were described as having advanced achievement and language skills, long-

range concentration, enjoy learning, curious, ability to conceptualize, idealistic, and independent. Recommended for each student was a thorough case study using developmental information, psychometric and academic data, and self-inventory. A variety of identification tools were recommended in order that all children who have the potential may qualify. Disagreement was noted in the literature concerning teacher judgement as a way of identifying the talented students. Evidence indicated that teacher's judgement needed to be reinforced with group intelligence tests, achievement tests, and substantiated with individual intelligence tests.

Staffing Patterns

Administrative. Delineation of roles and responsibilities through job descriptions was recommended. This described relevant duties, responsibilities, relationships, and qualifications needed for the position. Job descriptions prepared the way for honest and constructive evaluation of the duties to be performed. The state level consultant for the academically talented programs was to develop, promote, coordinate, and assist the state and local school districts in establishing these programs. An interpretation and application of the state laws and regulations concerning the talented programs was a necessary responsibility.

The local school superintendent was to actively support the academically talented programs through planning and modifying current programs, evolve evaluation models, and acquire and disseminate extensive background on the needs of these students. Acquisition of materials, facilities, and adequate staffing was a part of the superintendent's role. The principal must become knowledgeable about the needs of the academically talented students, stimulate interest and concern for the program through his staff, secure appropriate materials, communicate with parents, and participate in evaluation of the program. A program coordinator or consultant must act as a constant interpreter and advocate for the talented programs as well as having authority to arrange optimal learning situations for this group of students.

Instructional. The key person in these programs was described as the teacher. The teacher served as a mentor, a model of intellectual interest and achievement, and acted as a stimulant for social concern. Strengths and expectations of teachers who worked with the academically talented students were: (1) personal qualities--emotionally stable, warm and sincere, sense of humor, stimulating personality, creative, desire to individualize learning, and display enthusiasm for the talented programs; (2) professional qualities--knowledge of the academically talented students, problem solving methods usage, teaching

strategies geared to this student, strong intellectual background, and showed professional and scholarly growth.

Supportive Personnel. Theoretically and practically, there existed a need for supportive personnel who were dedicated to the concept of individualization in education for an effective academically talented program. Psychiatric case workers may be needed to assist with adjustment problems for those students who show a higher divergence from the norm. Guidance and counseling personnel, school psychologists, and psychometrists were to assist with testing and identification of candidates. They all were listed as part of the team of the supportive personnel staff.

Preservice and Inservice Training. Teaching training in working with the academically talented students should provide opportunities to learn new ways to: develop rapport with a different type of student, accept flexibility and additional responsibility in organizational planning. Preservice training will hlep the teacher become more secure in working with the brighter students, gain more content knowledge and methods, and provide opportunities for the teacher trainee to try these new methods under adequate supervision. Future directions for teacher training programs indicated a need for academic programs through colleges and universities which would provide more masters and doctoral level programs in the area of the talented students.

Inservice training provided for administrative, instructional, and supportive personnel as well as the paraprofessional was recommended in order to orient staff in student identification, program planning, and evaluation. Teaching skills, knowledge of subject matter, and increased appreciation of the needs of the talented students were benefits reported from the inservice training programs. Preservice and inservice training was a high priority requirement for those involved in the academically talented programs. Differences in attitudes and actions toward the academically talented students and their needs were indicated as a result of these training programs.

Administrative Strategies for Program Development

Research has concluded that the more definitive and the more intensive the special provisions for the academically talented students were the greater the chance of obtaining measurable improvement in the performance of these students. Adapting educational provisions for the academically talented students can basically be accomplished in upgrading curriculum, learning style, and learning environment. Objectives for administrative changes centered on reducing the range of talented and achievement in a group in what the teacher has to deal with and decrease the amount of time students spend in the educational process. It was recommended that the best-prepared personnel be brought into touch with the academically talented students.

In adapting an appropriate design for a particular school, the following should be considered: number of candidates identified, availability of human and physical resources in the community, and local acceptance of the program. An emphasis was placed on the fact that no administrative design will insure learning. Considering that facilities, materials, and wholesome environmental situations were present, these would not substitute for a skillful and competent teacher. Broad administrative designs were discussed in the literature as acceleration, enrichment and ability grouping. Seldom were these seen functioning as a single approach but combined so that positive aspects can be enhanced and the weaknesses minimized.

Inconsistencies existed between research findings in favor of acceleration and the failure of society and educators to accept it. More evidence was found favoring acceleration than homogeneous grouping or enrichment but acceleration was the least practiced administrative design in the academically talented programs. Experimental evidence supported acceleration through reported academic gains and no serious detrimental results in social and emotional adjustments.

The most common form of acceleration used at the primary level was early admittance to school. The ungraded primary programs gave the talented student the opportunity

to complete the first three grades in less time without leaving the group. Double promotion or grade skipping was the procedure used for the intermediate level. Studies have indicated academically talented students can condense school requirements and still maintain superior performance.

Early admittance to school revealed favorable results in research studies. This form of acceleration eliminated grade skipping later which was considered the least acceptable. Early admittance lessened social adjustments and provided for six years of elementary school instead of five as associated with the acceleration design. A valid set of criteria should be considered before acceleration is recommended including academic achievement, physical age, social maturity, and emotional stability.

Research findings on grouping have been contradictory and inconclusive. Some professional and lay advocates of intensified programs for the academically talented recommended some form of grouping. Many leaders of the educational profession in universities and school systems oppose ability grouping on social and philosophical grounds. Separate or segregated classes for the greater part of the day were less accepted by students and teachers as well as other professional educators.

Research found that grouping does not cause negative effects on attitudes or interests of the talented

students. It was concluded that merely changing the ability grouping within the class without changing the curriculum and methods of teaching could not expect to find substantial changes. Talented students grouped for instruction generally show greater academic gains than other talented students in the heterogeneous groups. The most effective grouping tended to be in a specific skill such as reading.

Enrichment showed a possibility as an administrative design for the academically talented programs if it were used with either grouping or acceleration. Success or failure of enrichment depended largely upon the enthusiasm, ingenuity, and interest of the teacher and administrator. Limited or no research results were found that substantiated a superiority of the enrichment design. Enrichment was considered difficult to measure as to its effectiveness. An enrichment model usually consisted of some type of supplemental content in the form of additive knowledge or qualitatively different topics.

Differentiated Curricular Modifications

Programs and teaching methodologies for the academically talented students have been an extension or intensification of the general curriculum for all students. Differentiated curriculum to encourage higher levels of functioning on the cognitive level would more effectively meet

the needs of these students. If schools honor the diversity of abilities, then the curriculum should be congruent with the characteristics that identify the academically talented students as a distinct population.

Ingredients for curriculum development in these programs included descriptive educational models which considered goals of education and the overall portrait of this unique learner, appropriate teaching methodologies to fulfill the goals of the selected theoretical models, and subject matter content geared to the teaching learning models. Theoretical models such as Guilford's, Bloom's, Bruner's, or Williams's proved adaptable for curriculum construction.

Assessment of Students

Periodic diagnosis of the student's program in terms of capability, performance, interests and motivation should be conducted. A case study should be assembled and kept on each student. School records should indicate that the student was a participant of a more rigorous academic program.

Instructional Facilities and Materials

Few references were found which pertained to physical facilities, materials or equipment specifically used for the talented students. For the most part these programs took advantage of what was available for all students

to use. More emphasis was given to the provisions of adequate library and laboratory space. These were places where independent study and research were encouraged.

Communication Channels

Effective communication channels to the staff, parents, and students were listed as a necessity. Information disseminated to the community long before program inception and continued throughout the time of the program would lessen problems which may inhibit a successful educational opportunity. Sound public understanding and support was discussed as a high priority consideration in the talented programs. A way of sharing information with the staff, parents, and community should be a part of the academically talented programs.

Financial Allocations

Availability of sufficient funds was a major obstacle to these academically talented programs. Financial support from federal, state, and local districts was needed for effective programs. The amount of a school budget set aside for the academically talented programs could only be estimated because no optimal program had been fully funded. Rough estimates were given of the cost of programs for the talented which clustered around one per cent of the total school budget.

Releasing large sums of undirected money into a school program would not necessarily insure an effective program for the talented students. Foundations, groups, and organizations were listed as possibilities for supplying money for supplemental assistance in the cost of these programs. Educators should be aware of ways to capture money from federal sources. The literature noted that spending money for mentally retarded programs was justified on the basis of special needs of these children. This led to the conclusion that comparable expense was justified for students on the other end of the scale.

Administrative Evaluation

Systematic evaluation was suggested to cover all stages of the program from its beginning to completion. The literature recommended the use of a variety of instruments as well as selecting an outside consultant or agency if an adequate and objective evaluation was expected. Two distinct evaluations were found in the literature; the first involved the individual growth of the student; and, the second one considered the evaluation of the entire program. A variety of evaluation instruments was discussed as being available to accomplish these two distinct forms of evaluation.

CHAPTER III

RESEARCH BASIS FOR SELECTED STATE PROGRAMS

This chapter gave a brief sequential description of program implementation in the four selected state plans used in this study. Using each of the four state plans, the data were subjected to a systematic review of the stages through which each state's program for the academically talented had progressed. This chapter attempted to determine the relationship between the present state programs as presented in the adopted plans and the research basis from which each originated. Data for this chapter were taken from the respective state documents concerning educational provisions for the talented students.

Sequential Development

California Mentally Gifted Minor Programs[274]

Development of the California Mentally Gifted Minor Programs had its beginnings in 1925 with a study of 1,528

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[274]Sources of data for the California Mentally Gifted Minor Programs which were used in this study were: California, State Department of Education, Principles, Objectives, and Curricula for Programs in the Education of Mentally Gifted Minors, (1971), and Educating the Gifted in California Schools, (1975).

intellectually gifted students by Terman. "Roots of the California program for children in the upper two percent of general mental ability extend back to the monumental research efforts of Lewis Terman of Stanford University." There were no explanations in the California plan as to how Terman's study had actually influenced their programs except that he worked with California children. The number of students participating in California's gifted minor programs has grown from 35,000 in 1961 to 184,000 students in the fiscal year 1974-1975.

In 1957-1960, the California State Legislature sponsored a three-year study, "Educational Programs for Gifted Pupils." This study evaluated seventeen different programs in which the following were researched: (1) characteristics of gifted children and youth; (2) effectiveness of programs; and (3) the cost of programs for the gifted. Results of the study were that the gifted young people in these programs were reported to have made significant gains in academic achievement and in personal development. No further discussion was available on what academic gains were made nor how the study contributed to the personal development of the gifted minor.

California Project Talent was a three-year demonstration program conducted during 1963-1966 which developed and presented four "validated" types of programs, prepared publications, and inservice education films. The

four "validated" types of programs were enrichment programs in the regular classroom, special classes, special counseling, and advanced classes or acceleration programs. A series of fourteen films were to "validate" the program models. Percent of distribution of enrollment in these four major programs were: (1) enrichment programs in the regular classroom, 52 percent; (2) special classes, 25 percent; (3) special counseling or instructional situations outside the regular classroom, 10 percent; and (4) advanced classes or acceleration programs, 10 percent. No criteria for selection of student participants in this study was given nor assessments of students after being a participant in the study.

In 1975, the Blue Ribbon Committee appointed by the Superintendent of Public Instruction was to advise the Superintendent of ways of improving education for the gifted children. Educators on the committee were from local school systems, university professors, and State Department of Education Staff. The committee submitted a recommendation for the current reconceptualized statewide program.

Connecticut's Comprehensive Model for the Education of the Gifted and Talented[275]

In 1956, John Hersey was chairman of a special committee to study the needs of the gifted and talented youth in Connecticut. The Hersey Committee prepared a comprehensive report on the program needs for these students. No report was given of the findings of this committee. Little or no action was taken on this committee report until 1965-66 when a consultant for the gifted and talented youth was hired to give state leadership in this field.

In 1966, in recognition of a need for reviewing the statutory provisions and regulations for the education of exceptional children in Connecticut, the State Board of Education arranged a comprehensive study to be conducted by Dr. Daniel Chubback, Chairman of the Department of Educational Administration, Bridgeport, Connecticut. Dr. Chubback conducted a comprehensive study of existing legislation in Connecticut relating to the education of exceptional children (including the handicapped and the educa-

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[275]Sources of data for Connecticut's Comprehensive Model for the Education of the Gifted and Talented which were used in this study were: Connecticut, State Department of Education, Designing, Developing, and Implementing a Program for the Gifted and Talented, (1973); Policies, Procedures and Guidelines for Gifted and Talented Programs, (1975); Connecticut's Comprehensive Model for the Education of the Gifted and Talented, (1975); A State Plan for the Education of the Gifted and Talented 1974-1979; Report of the Task Force on Identification, (1974); and Report on the Task Force on Program Evaluation, (1974).

tionally gifted and talented). The report included:

> An analysis of procedures, policies and problems which existed in relation to state legislation for the education of exceptional children and its contribution to the development of adequate educational program services for exceptional children.
>
> An analysis of other conditions which existed in the State which affected the efforts of local educational agencies to provide sound programs and services for all exceptional children.
>
> A synthesis of the concerns and recommendations of persons within the State interested in exceptional children, including educators, parents, and health, mental health, and welfare workers.
>
> Recommendations concerning state legislative policies and procedures to the State Board of Education designed to facilitate more adequate programs and services for exceptional children in Connecticut.

Findings in the Chubback study were:

> The study found gaps and overlaps in the existing state legislation for exceptional children.
>
> There existed a severe shortage of professional personnel competent to diagnose, direct, experiment, evaluate, and provide programs for exceptional children.
>
> The study found the limitation of financial support to be a major block to adequate provisions for all exceptional children. Inadequate and inequitable funding encouraged the employment of less than competent personnel, improper grouping, and inadequate identification programming and evaluative services.

In 1966, the State Board of Education approved the Chubback Report, and the Legislative Commission began to translate the generalizations of the study into legislation, Section 10-76. Section 10-76 of the Connecticut General Statutes, was enacted in 1967 which permitted

programs for all forms of exceptional children. These were students who suffered physical, mental, and emotional handicaps, those who became bored because of their speed of perception, those who had special gifts for traditional disciplines, notable physical skills, and creative arts. Since the Chubback study had revealed limitations of financial support for exceptional children, Section 10-76 made provisions for adequate funding to local school districts.

Funding for these programs covered professional and paraprofessional personnel, equipment and materials, transportation and special consultative services for the talented programs. Colleges and universities also began programs for preparation of personnel in developing skills in differentiated strategies and curriculum for the talented.

In 1967, the Bureau of Pupil Personnel and Special Educational Services conducted its initial survey of the Local Educational Associations in Connecticut. At that time four LEA's had formed programs for the talented out of the 169 school districts in the state. In 1974, there were eighty prior approved programs serving 5,132 students.

State of Georgia
Department of Education
Program for the Gifted[276]

Interest in the Georgia Department of Education concerning instructional programs for the intellectually gifted youth dated back to a 1958 House Resolution, Number 246. This Resolution requested information on what was being done at that time and projected plans for the future. There were to have been a series of publications on the intellectually gifted by a special committee but no information was given as to whether it was actually done or what was to have been included in the publications.

A consultant in the area of the gifted was added to the State of Education staff. From July 1960 to July 1961, the consultant participated in the Southern Regional Education Board Project, "Education of the Gifted," a training program designed to place within southern state departments of education one person informed as to the education of the gifted. As a participant in the project, the Department accepted the responsibility of developing a ten year plan of action.

This ten year plan was developed by the consultant working with two committees--a statewide committee of

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[276]Sources of data for the State of Georgia Program for the Gifted which were used in this study were: Personal communication to the writer from an Education Advisor for the Gifted in the State Department of Education, Appendixes I, II, III, and IV, and Historical Background of the Intellectually Gifted Program.

public school, state department, and university people along with a State Department of Education Committee. This plan recognized the need for these programs and provided flexibility in standards to meet area needs. The ten year plan of action was divided into four sections: State Definition, State Department Goals, State Department Responsibilities, and Immediate Action for the State Department. As to how the local systems fit into this ten year plan, there was little or no attention given to how it would be a part of this action.

One of the first action steps in the ten year plan was conducting demonstration or experimental programs. These provided programs for the gifted students in ten congressional districts throughout the state. Approved by the State Board of Education in 1960 with a grant of $4,000 annually per school system, ten programs operated in the congressional districts from 1961 until the close of the 1963-1964 school year when they were terminated because of lack of funds. The participating systems emphasized the success of the programs and that certain phases of the programs would become a part of the regular school instructional program after they were terminated. No further discussion nor evaluation procedures were given to indicate how they were determined a success.

According to Georgia's report of historical development of these programs, many of the goals set forth for

the ten year plan of action were reached in part and some in full. No evidence was given as to how this was determined. No further action was taken for the elementary school students until the 1968 General Assembly. This General Assembly passed House Bill 453 which mandated special programs for all exceptional children including the intellectually gifted by school year 1975-1976. Noticeable attempts to meet the requirements of House Bill 453 which brought twenty special programs for these students in 1969-1970, and the number grew to forty-four by the 1970-1971 school year. In 1975, Georgia had approximately 264 special teachers of the academically talented in 117 school systems.

Illinois Plan for Gifted Children[277]

The Illinois Plan originated in 1959 on the recommendations of the Illinois School Problems Commission when the General Assembly established the Special Study Project for Gifted Children. The purpose of the Special Study Project, which operated from 1959 to 1963, was to secure data, information and recommendations to assist the General Assembly. This was to determine whether permanent legislation to assist districts in provisions for the

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[277]Sources of data for the Illinois Plan for Gifted Children which were used in this study were: James J. Gallagher, Research Summary on Gifted Child Education (Illinois: Department for Exceptional Children, 1966), The Gifted Classroom (Illinois: Center for Instructional Research, 1971).

gifted children were needed and desired and the nature of this legislation if a need was determined. The Illinois Plan did not reveal who served or what responsibilities the Illinois School Problems Commission had in relation to these educational programs.

From 1959 to 1963, the Special Study Project for Gifted Children supported a total of forty-four study projects in school districts and universities. This was done under two successive biennial appropriations of $150,000 each. An Advisory Committee of educators used the data and recommendations of the study projects, the Gallagher report (the previous Analysis of Research), and their own experience in drafting a preliminary set of recommendations for state action.[278] The School Problems Commission approved the recommendations and drafted the implementation bill for legislative action. The five parts of the Illinois Plan consisted of provisions for reimbursement for services and materials, demonstration centers, experimental projects, state staff for administering the program, and training programs for personnel. A complete evaluation of the program was completed for the years through 1963-1971.

Findings of the evaluation efforts were that a number of districts participating in the state programs

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[278]James J. Gallagher, Analysis of Research on the Education of Gifted Children (Urbana, Illinois: State Department of Education, 1960).

increased and that about one-third of the districts in the state had developed programs for the gifted children. Evaluation procedures used in all phases of the programs were considered unsuccessful. Some courses were accelerating fact-gathering and memory type tasks which did not reveal innovative approaches. Small districts had not produced quality programs and talented underachievers or the highly gifted were not receiving special provisions.

Research dealing with the production of new materials or methods and procedures and practices for a foundation to the Illinois programs was discussed. These research reports were presented by Gallagher for these reasons:

> The basic information contained in the publication were used not only for the construction of the Illinois Plan for Program Development for Gifted Children but also to provide a foundation for districts and teachers developing local programs for children of high ability.

The following research projects were conducted in the Illinois Plan.

> Sands and Hicklin (1965) reported a study of developing and using self-instructional materials for gifted students in early primary grades.
>
> Hennis, Gillespie, and Saltzman (1965) conducted a research effort in a television project for the gifted.
>
> Retzer (1966) indicated another curriculum innovation study for self-instruction for gifted students. This was a linear programmed series for fifth and sixth grade students.

An attempt to stimulate the vocabulary development and usage of gifted children was reported by Turnbaught (1965).

Shaffer (1966) conducted a follow-up study of an inservice training workshop for teachers.

Merz (1966) investigated early identification of talent using a variety of standardized tests.

Gallagher (1965) conducted a study of the influence on students attending a university laboratory school.

Twenty-two research projects were listed by project title, researcher, and the affiliated Illinois school as part of the Illinois Plan.

Analysis of Data

This section analyzed the data presented in the sequential development of programs for the academically talented students which were taken from the four state plans used in this study. This section was to determine if a relationship existed between the four state programs as proposed and a research basis from which each originated.

Research studies conducted in California's program for the gifted minors lacked specificity in the findings. California's document referred to the monumental research efforts of Terman's studies as giving the roots to their state program for gifted minors. No citing of Terman's studies was given as a basis for the programs for the gifted minors. The impact of Terman's work on the study of the gifted child has been common knowledge. It was

concluded that a significant relationship existed between California's program for gifted minors and the research base from which it originated.

Connecticut revealed no data which indicated a research basis for educational programming for the academically talented students. Legislative regulations and studies pertaining to the development of statutory provisions for all exceptional children in Connecticut were especially noted.

Georgia's plan included heavier emphasis on program intentions and the part the State Department of Education played in these educational provisions. Georgia's plan gave no indications of a research basis for the experimental programs which were implemented for a three-year period during the initial stages of their programming efforts for the gifted. It was concluded that no relationship existed between Georgia's program for the gifted and the research base from which it originated.

Illinois's period of research and planning which preceded the establishment of their proposed programs and the full scale evaluation efforts laid a research foundation for inception of the state plan. Substantial data were accumulated as a result of the Illinois state studies and projects. It was determined that a significant relationship existed between the Illinois Plan and the research from which it originated.

CHAPTER IV

PRESENTATION OF SELECTED STATE PLANS

These selected state plans have come from states which were listed in the Four Case Studies[279] in the United States Office of Education's study on provisions for the talented at the various state levels. State plans from these four states yielded information on the differing solutions used in meeting the educational needs of the academically talented students. The major findings in the four state plans used in this study were discussed in terms of interdependent program variables. These interdependent program variables were identified in the literature as being essential characteristics in planning successful programs for the academically talented students.

A. Rationale including goals and philosophical foundations supporting differential educational programs for the academically talented students.

B. Identification and placement of candidates.

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[279]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 51.

C. Staff patterns including administrative, instructional, and supportive personnel along with preservice and inservice programs.

D. Administrative strategies which involved administrative designs, differentiated curricular modifications, assessment of students, instructional facilities and materials, communication channels, and financial allocation.

E. Administrative evaluation of the interdependent program variables.

California Mentally Gifted Minor Program[280]

The interdependent program variables identified in the review of the literature will be used in presenting California's program for gifted minors. The basic sources of information for California's programs for the gifted minors were listed below.

Rationale

The Department of Education Plan for Gifted Education based the state's philosophy for special provisions for these students on the following:

> The central task of the schools is to facilitate the continuous educational progress of each pupil

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[280]California, State Department of Education, Principles, Objectives, and Curricula for Programs in the Education of Mentally Gifted Minors, (1971); and Educating the Gifted in California Schools, (1975).

> by identifying the significant differences among learners and differentiating expectancies for them while promoting maximum growth.
>
> . . . Programs must be designed which adequately identify and motivate gifted individuals and allow for maximum development. The intellectual processes by which the gifted assimilate knowledge and make the necessary accommodations to this new knowledge . . . must be taken into consideration. Parents, school personnel, and other community representatives meeting together must study, discuss, and arrive at a consensus on these and other issues.

The Department has set the following goals for these programs.

> To pursue with greater vigor the identification of and programming for gifted individuals who are among the culturally different student population.
>
> To coordinate statewide inservice training to increase the awareness and understanding of giftedness by school board members, administrators, teachers, parents, and other appropriate publics.
>
> To coordinate statewide inservice training to upgrade the quality of the teaching of gifted individuals.
>
> To establish experimental programs for the gifted. To improve the quality of programs for gifted individuals statewide.
>
> To increase the level of state support for programs for the gifted. To improve the quality of programs for gifted individuals statewide.

Objectives for the Gifted and Talented Education Management Team, State Department of Education, lie in four areas: management, training, planning, and research and evaluation. The management team is charged with the responsibility of pursuing stated objectives which are part of these areas.

Identification and Placement of Candidates

According to the statutes of California, eligibility for gifted minor programs was considered as:

> The law currently limits those who can participate in programs to individual students who
>
> (1) are in the top two percent of the pupil population in the state;
>
> (2) demonstrate high achievement in schoolwork;
>
> (3) are, in the judgment of teachers, administrators and supervisors, persons who indicate superior potential; and
>
> (4) have demonstrated general intellectual capacity but for reasons associated with cultural disadvantages have underachieved scholastically.

California described the identification methods used in that state along with an assessment.

> The most commonly used identification procedures include the following:
>
> (1) group intelligence tests;
>
> (2) teacher judgments;
>
> (3) school records that include achievement test scores and teacher grades;
>
> (4) individual intelligence tests administered by qualified persons;
>
> (5) appraisal of social and emotional maturity and adjustment;
>
> (6) parent interviews; and
>
> (7) assessment of pupil ambition and drive.
>
> It is well to note that procedures 1, 3, and 4 are notoriously inappropriate in many respects for this task; that procedures 2, 5, and 6 are disastrously vulnerable to bias and subjectivity in most cases

> of their application; and that procedure 7 is virtually impossible with today's technology.

Multiple testing devices and observations were noted in California's identification program in order that culturally and educationally disadvantaged students would not escape detection. Nominations were to be from an identification and placement committee who considered the student's intellectual and scholastic abilities. This school committee consisted of: teachers, principals, psychologists, counselors, and curriculum specialists. A developmental case study for each student was prepared with evidence pertinent to the child's progress. California's plan emphasized the earliest identification possible for the gifted minors and continued throughout the grades with follow up.

Staffing Patterns

To assure appropriate attention and high visibility to the gifted programs, the management team had the following duties:

> . . . the management team will conduct regional training workshops for inservice education, develop experimental programs, and assist districts to improve the quality and quantity of their offerings as financial support is increased . . .

Except for the responsibilities of the management team in the implementation of these programs, California's plan did not specifically delineate the duties of other personnel. Roles and abilities of all state and local

personnel were to be interrelated in working for effectiveness in the programs for the gifted minors. A particular emphasis was noted on the importance of all personnel functioning as a team rather than as independent entities in the gifted minor programs.

Characteristics of teachers working with the gifted students were described as:

> The teacher of the gifted must:
>
> . . . be one who adapts instruction to individual differences and develops an awareness in these young people concerning the qualities of being gifted.
>
> . . . be competent and comfortable with respect to flexible approaches and worthwhile processes, the forming of hypotheses and brainstorming . . .
>
> . . . be free of lock-step and piece-by-piece approaches.
>
> . . . needs intellectual energy and competence . . . the teacher needs a flexible and lively hold on the subject matter.
>
> . . . needs self-sufficiency and generosity . . . the teacher must not be a hostile person. Several contemporary writers maintain that in our society there is a widespread adult dislike for gifted and creative children.

State inservice training models were to provide training for:

> County, district, and local level administrators
> Teachers in the talented programs
> Program evaluators and developers
> School counselors, psychologists, psychometrists
> Program consultants and coordinators
> Parent and community members

Preparation of professional personnel was seen as needed for the following reasons:

> These staff members require specific preservice and inservice education which prepares them to function effectively in the development of higher intellectual, academic, affective, and creative skills. Inservice education should prepare the staff in pupil-appraisal, program planning and development, and evaluation. The selected techniques can be appropriately differentiated through staff training programs in which staff members can acquire a thorough understanding of the characteristics of the gifted, their learning and developmental needs, and appropriate teaching methodologies for use with gifted students.

No discussion was available on the preservice training at the college and university level or programs available for teacher trainees or teacher certification.

Administrative Strategies for Program Development

Key elements in California's program for the mentally gifted were listed as:

- Identification of the talented students and placement in a state approved program.
- Parent consent.
- School districts providing a written plan for these students.
- Case study for each child.
- Participation by students in a qualitatively different program for at least 200 minutes per week.

The written program plan which can be inspected by the public included the following:

- Description of the qualitatively different curriculum pursued by the talented.
- Purposes of the program with general and specific goals the students were expected to achieve.
- Special facilities and materials used relating to the program.

Assessment of the program, progress of the student, and an administrative review of the program.

After review of the program, administrative modifications should be provided as a result of feedback.

The types of programs found in the California provision for the mentally gifted were:

Regular class enrichment.
Tutoring.
Advanced grade or class placement.
Outside the regular classrooms possibilities of special counseling or instruction for the students.
Talented students placed in organized special classes.
Program option--Local school district was allowed to use an innovative program design other than the ones listed above.

In 1969, state regulations established two general categories of program provisions. They were discussed as special services or activities and special day classes. Descriptions of these two provisions were:

Students remain in regular classrooms but take part in supplemental educational activities to augment the learning fare provided in the regular program. During these activities students have access to advanced materials and receive special help from someone other than a regular classroom teacher.

Students are provided with additional instruction by the school or a special tutor.

Placement in an advanced class which is beyond the student's chronological age group and provided special instruction to assist them in handling the advanced work.

Students participate in other instructional activity during the day or outside the regular school day. This was to benefit the student in providing additional opportunities above and beyond what the regular classroom provides.

> Classes were organized to pursue enriched subject matter for a portion of the school day . . .
>
> The second category of programs is the special day class. This program option consisted of one or more classes totaling a minimum school day for the gifted minors.

Differentiated Curricular Modifications

California presented eight subject matter areas for grades kindergarten through twelve. Each subject matter division contained subdivisions arranged according to grade level. In planning the curriculum for the gifted, considerations must be given to:

> . . . the content must be specifically selected to integrate factual learning with thought processes and conceptual learning with motivation. Subject matter must be allowed to transcend traditional subject boundaries if content is to be employed to enhance the development of internal motivation, higher-level affective functions, and cognitive processes. The ability to span concepts across factual content is a characteristic well known to educators who work with the gifted student. . . . An integration of his ability with the organization of the curriculum . . . will contribute to and lead to the actualization of individual productivity.

Particular changes in the curriculum to foster mental health and productivity for students with high cognitive-academic potential were a necessary part of California's state plan. These changes were derived from:

A. The unique characteristics of these students and their abilities to think on higher intellectual levels.

B. Current technology and social conditions in the country.

C. Psychological findings concerning the learning abilities of the talented students.

D. The organization and classification of knowledge and theoretical models which have proved useful to educators.

E. Background knowledge of the conditions which facilitate learning.

California used taxonomic approaches such as those proposed by Bloom and Krathwohl, Guilford, and Phenix's Classification of Knowledge. These taxonomies and tested theories provided categories, principles, and hierarchial lists of objectives for the content in educating gifted minors.

Assessment of Students

The California plan specified that student assessment (marking or grading) should not penalize the student but offer a challenge. An example of one type of student assessment was given and was based on progress in curriculum content as well as emphasizing the affective growth of the program participant. This student assessment instrument was presented in the form of a rating scale.

Cognition (comprehending)
Memory (retention and knowledge) with respect to presented material
Evaluation (skills, analysis, synthesis)
Convergent production skills (application)
Divergent production (creativity, synthesis, application, and critical thinking)
Special skills for future achievement
Social, attitudinal, and emotional growth
Motivation, interest, and talent

Mention was made of the fact that rote and drill would be emphasized to a lesser degree with the gifted, therefore, little concern should be given to the results of such curricular devices in the evaluation. By appraising the high level achievements, cognitive and affective growth, these were available to act as a guide in influencing changes or modifications in the gifted minor programs.

Instructional Facilities and Materials

The state plan underscored the necessity for local school districts to make plans for special facilities or materials in the programs for the gifted minors. According to California's plan, educational technology has produced innovative devices for use in the classrooms but urged the printed word for use with the gifted minor programs. The reasons given for using the printed word were listed as:

Provided unique problem solving situations and opportunities.
Encouraged a method of discovery for the gifted minors.
Divergent thinking was used more frequently.
Opportunities for dialogue and discussions with peers and teachers were more common.

Communication Channels

California's plan for talented programs encouraged communication both among educators and in turn between educators and the community at large. The Gifted and

Talented Education Management Team served as the liaison between the Department of Education and the local school districts as well as parent organizations.

Program trends in California have witnessed increased involvement of the community whether it be parents or special resource persons working with the teachers and children. Recommendations were made for counseling to be available to parents regarding the rearing of talented children. Effective communication channels were listed as essentials in meeting the needs of the gifted minors. The California plan described these needs as recognition, understanding, and acceptance of the talented students by the instructional staff, parents, and the community.

Legislation for program improvement in California listed community involvement at the local levels. This legislative action suggested a communitywide response to these programs and that a school advisory committee should appropriately have parents of the talented involved in the educational policies. Strategies were planned for involving the community in planning, operating, and evaluation of program opportunities.

Financial Allocation

A three year study in 1957-1960 clearly indicated the need for $250 per year for each student in the mentally gifted minor program. At that time the funding level was

established at $40. California sensed a need for a more equitable and manageable funding plan for securing financial resources for their programs. Legislation passed in 1972 increased the special identification allowance from $40 to $50 and provided for special progressive program allowance increases of $10 per year through 1975-1976.

The Department of Education's Bureau of School Apportionments and Reports has estimated that the total program and identification costs in 1974-1975 and 1975-1976 will be:

1974-75	$18,095,400
1975-76	$19,244,000

Currently, the statewide apportionments formula is limited to funds based upon 3 percent of the units of average daily attendance (a.d.a.) of the previous fiscal year.

Administrative Evaluation

California's plan urged frequent and honest appraisal of programs for the talented if high standards of quality are to be met. For viable evaluations, the plan suggested the following:

A. Objectives and goals be clearly specified at the beginning of a program.

B. Criteria be set up to determine the extent these objectives and goals have been realized.

C. Interventionist evaluations should be employed before the program nears completion for a more effective appraisal. This enabled feedback and revisions to be made, if necessary, as the program progressed.

D. A look at the program as a whole rather than fragmented parts.

E. Outside evaluators--specialists or consultants--be used.

F. Multiple evaluation instruments were recommended in order to receive a more objective evaluation.

G. Strategies for parent participation in the evaluation of the gifted minor programs should be included.

For meaningful evaluation of the gifted minor programs, California's plan suggested:

> For meaningful results, evaluation plans should include ways for evaluating the specific and ultimate goals of the program, the identification and placement program, the organizational approaches used for instructional purposes, the instructional materials and methods used, the motivating and counseling techniques, the total growth of participating individuals, the general climate of the school, and the attitudes reflected by nonparticipants toward the program.

Connecticut's Comprehensive Model for the Education of the Gifted and Talented[281]

The interdependent program variables identified in the review of the literature will be used in presenting Connecticut's Comprehensive Model for the Education of the Gifted and Talented. The basic sources of information for Connecticut's plan for the gifted and talented are listed below.

Rationale

Equality of educational opportunities based on the worth and unique qualities of individual students dictated the necessary support for educational provisions for all levels of exceptionalities in Connecticut. This state recognized the fact that every school in the country has students with demonstrated and/or potential to achieve extraordinary heights of learning. Maximum development of the academically talented students can take place only when national, state, and local educational agencies join in by identifying with the capabilities and potential of the talented students and act accordingly.

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[281]Connecticut, State Department of Education, Designing, Developing, and Implementing a Program for the Gifted and Talented, (1973); Policies, Procedures and Guidelines for Gifted and Talented Programs, (1975); Connecticut's Comprehensive Model for the Education of the Gifted and Talented, (1975); A State Plan for the Education of the Gifted and Talented 1974-1979; Report of the Task Force on Identification, (1974); Report on the Task Force on Program Evaluation, (1974); and A Status and Needs Review of Gifted and Talented Programs in Connecticut, (1972); and Curriculum Guidelines for the Gifted and Talented, (1974).

An action plan was revealed which provided for a somewhat broader concept of the academically talented as being high creative-productive thinking students, bright underachievers, and those with potential for very superior levels of ability. The rationale for providing these programs was the need for encouragement of these students and a viable educational plan to nurture their abilities for individual fulfillment as well as for the betterment of society.

Identification and Placement of Candidates

Connecticut considered the academically talented students to be those who have been identified by professionally qualified personnel as revealing outstanding intellectual abilities with high performance capabilities. It was felt that about three percent of the most intellectually talented students would be eligible for these programs.

The state plan described the multiplicity of ways these candidates were to be screened and identified. The use of a variety of selection procedures was heavily emphasized in Connecticut's program which helped to avoid arbitrary cut-off or limitations. The multicriteria approach used in building the student's case study included:

A. Utilization of appropriate standardized tests

Intelligence tests--group and individual
Achievement tests
Aptitude tests
Personality and interest inventories

B. Demonstrated or potential academic achievement according to professional personnel who are familiar with the work of the student.

School grades
Rating scales and checklists from teachers
Parent and student interviews
Nominations by teachers and professional staff
Peer nomination and self-assessment

A Connecticut Task Force considered the most effective instrument as the individual intelligence test (e.g., Stanford-Binet or Wechsler), but pointed toward the economics of using this method and the time, personnel, and money involved in using it.

> Although it may be useful in certain instances, such as confirming borderline or doubtful cases, the individual test is not very practical for general screening. For this purpose, it makes more sense to use the slightly less accurate group tests of intelligence.
>
> . . . it is wise to recall that group tests may pass over students with reading difficulties, emotional or motivational problems, or students from disadvantaged backgrounds. It is also important to supplement these tests with other indicators of ability in order to be more certain that the student--especially in the early grades--is not merely a 'hothouse gifted child' (i.e., an over-achieving child of less than superior ability from a super-enriched home) . . . In addition to sharing the same limitations as group intelligence tests, achievement tests also fail to identify gifted underachievers unless the scores are viewed <u>in combination with</u> IQ scores.

Identification of a student's talent should be in the early years and continued through the school years.

Regular standardized testing, observation and judgement by professional personnel, and a planned effort to assess the student's progress should be a part of the screening and follow-up. While the ultimate responsibility for placement of the student in these programs lies with the superintendent of schools, this decision should be a representative inter-professional collaboration before final placement.

Staffing Patterns

A full time consultant added in 1966 provided a sense of direction, leadership, and consultative services to local districts in the designing and developing of talented programs. Roles and responsibilities of the state consultant were:

A. Designed and developed program strategies.

B. Assisted individual school districts in designing, developing, and implementing programs.

C. Preservice and inservice training; worked closely with colleges and universities.

D. Development of publications and information for dissemination.

E. Curriculum development, research, and evaluation pertaining to the talented programs.

F. Legislation assistance.

G. Developing models for new program approaches.

Job descriptions were considered an essential part of Connecticut's state plan for personnel involved in the talented programs.

Connecticut's professional development program involved the state's undergraduate and graduate study as well as inservice education. Colleges offered courses which ranged from the basic requirements in working with the talented through specific courses on curriculum, differentiated strategies, and seminar work. This degree program has advanced to the doctoral level at the University of Connecticut.

Connecticut has developed a specific process of an inservice program which was designed to work with the professional as well as the paraprofessional personnel. The dimensions of Connecticut's inservice program were described as:

1. Areas of the Gifted and Talented (the various types of gifted and talented children and youth a district may work with);

2. Level of Entry and Expectancy of Participants (Design and Development of a Program, Implementation and Initiation, Leadership Training);

3. Content-Specific Components and/or Categories of Information (Ex. Identification, Needs Assessment, Differentiated strategies, curriculum, etc.).

. . . Bureau of Pupil Personnel and Special Educational Services has provided the following types of inservice training in the past eight years:

--Planning, Development and Update sessions for professional and lay personnel.

--Annual Year End Institutes to update personnel on the latest information available on educating these students.

--Regional Orientation Workshops aimed at the orientation of general educators to familiarize them with special educational needs of these students.

--Make presentations to PTA's, parent, civic and lay organizations.

--Northeast Regional Conferences on the Gifted and Talented . . .

Even though special teacher certification has not been established, teachers should hold a certificate appropriate for the age level of the talented students they are teaching. Personal and professional qualifications were listed as:

A. Primary requirements were:

A high degree of self-acceptance and security.

Warmth toward and acceptance of these special students.

Professional background which included advanced graduate study relative to this assignment.

Successful classroom experience.

Willing to seek additional training if recommended to do so.

Willing to meet with other staff members regularly.

B. Taking graduate courses designed to gain competence and understanding of the unique characteristics of the talented students.

C. Wants to teach talented students.

Administrative Strategies

Specific planning in the initial stages included the organizing of a planning and placement team within the local system to assess the needs of the students and how to meet them. Team members were to consist of: teachers, administrators, coordinators, supportive personnel, and parents. The administration assigned the responsibilities of fifteen program elements[282] which Connecticut felt the team should consider.

To further generate tangible plans for a differentiated program, an organizational design to provide for time sequence, space, and instruction to these students must be considered. Connecticut recognized the many alternative designs and emphasized the necessity of giving careful thought to the individual school system involved before reaching a decision or selection. Factors such as geography, facilities, transportation, as well as the political, social and educational make up of the community should be kept in mind. The administrative design was a secondary component in Connecticut's programming since it would be heavily influenced by the philosophy and objectives of the local school districts.

Some of the administrative designs discussed in the state plan were:

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[282]Fifteen program elements from Connecticut's plan were listed in Chapter II, pages 18-19.

A. Special classes--showed merit in some communities. It completely separated the talented students from other youngsters and peer groups.

B. Semi-separation designs--students spend some time in regular classes and an appropriate sequence of time in a special setting.

Examples of these semi-separation designs were listed as:

Resource room design
Itinerant teacher approach
Cluster approach
District-wide center
Regional center
Special enrichment study
Individualized instruction

These designs were an attempt to bridge the gap between the learning fare of special and general educational needs.

Components of the program may come in the form of acceleration and inquiry training.

By thoroughly analyzing and studying the design in the context of the local school system, characteristics of a given district were kept in mind which aimed at a more locally tailored program.

Following considerable thought and planning in the developing of a program by professional educators coupled with the collective viewpoints of parents and lay personnel, the program was to be submitted to Connecticut's Office of Gifted and Talented Programs for prior approval which assured reimbursement. This prior approval application included a narrative section which gave a breakdown of the proposed program into the following areas:

A. Identification--description of criteria and methods of screening.

B. Programs--specific objectives, curriculum content, methods. Two important factors requested were: the difference in what the regular classroom had to offer over the learning fare in the differentiated program. Another important consideration: the nature of the instructional practices or the design used such as enrichment, acceleration, and others.

C. Supportive services available.

D. Evaluation--should be in terms of basic objectives of the program; the procedure used in determining the success of the program.

E. Budget--Categories included: Personnel, instructional equipment, materials, and costs of special education consultant services.

These programs were required to meet minimum standards which included the following components:

A. Case study records of participating students.

B. Written design for the program should be kept with the following included:

Objectives
Activities
Special facilities
Evaluation procedures

C. Other requirements:

Student involvement in sufficient blocks of time to have significant influence on education progress.

Program related to preceding and succeeding educational experiences.

Curricular Modifications

Connecticut's plan pointed out that an ineffective approach to enrichment or merely bringing materials down a

grade level would not satisfy the needs for a truly differentiated program for the talented students. This plan has emphasized a two-part view of the curriculum for these students which covered both product and process. In selecting the product or content for the talented, key factors considered were intellectual challenge, stimulus to the exploration of additional knowledge, and understanding of broadly applicable concepts.

Connecticut's program guidelines presented the two-part version of the curriculum when blending of product and process.

> Product focuses on the subject matter, the facts, concepts, and generalizations of various disciplines. In-depth and open-ended exploration of special interests is encouraged, both in the form of independent study and in more highly structured sequences of instruction. Areas not usually covered in traditional courses of study may be included . . . The key factors in the selection of content are intellectual challenge, stimulus to the exploration of further knowledge, and understanding of broadly applicable concepts.
>
> Process refers both to the development of skills in retrieving and applying knowledge and to the improvement of intellectual processes. The first area includes study skills and use of resources and is aimed at helping gifted children become effective independent learners. The second area focuses on the enhancement of intellectual operations, especially the higher cognitive processes in which the gifted typically show so much potential.

Connecticut considered one important factor to be that of differentiated curriculum tailored to the unique needs of the talented students. Related to the differentiated curriculum was a further need of providing teaching

strategies to deal with the higher mental processes. Several school districts in Connecticut have prepared curriculum packages so that this need will be met. The inservice training programs the state has provided has given help and guidance for the teachers to meet this challenge.

Assessment of Students

Rating scales and checklists were part of Connecticut's procedures for evaluating the students. The examples described attempted to aid the teacher and the parent in understanding the learning characteristics of the student as revealed in program participation. Topics rated were:

A. Higher levels of thinking
B. Motivational characteristics
C. Learning styles
D. Interpersonal relationships
E. Response to the format of the class
F. Independent Study
G. Social behaviors

The reporting procedures covered the affective functioning of students as well as cognitive interventions. These topics indicated that efforts were made in the program for nourishment of the attitudinal and motivational enhancement of the student's development.

Further examples of student evaluative instruments included in various programs in the state did not give

letter grades for their involvement in the program. An in-depth assessment was given at the end of each quarter of the work the student had done to that date. Those assessments included written evaluations of the progress being made.

Instructional Facilities and Materials

Connecticut's Comprehensive Model contained little discussion on the actual instructional facilities used in their programs. Special facilities used in these programs were to be included in the written design presented for approval. Special instructional equipment and materials used primarily for the talented students were to be budgeted into the special education costs (Section 10-76 of the General Statutes). This included specific instructional materials beyond what is used in the regular classroom and was purchased specifically for these students. This statute provided for rental of space to provide instruction or services to exceptional children such as the academically talented. These facilities may be such items as portable classrooms or available space in the city or town which met building specifications for school buildings.

Communication Channels

High priority in Connecticut's attempts for sound programming for the talented was a totally informed and committed professional staff. This was a role delegated

to the administration along with its instructional leaders as promoters for continuing communication about and support for the program. Particularly important in Connecticut's Model was open and effective communication channels to the parents and the community at large. Instructional programs at their best can result in failure if public understanding and support are lacking. An actively involved community which showed sensitivity to change was considered a favorable asset in the developing and implementing of Connecticut's programs.

One aspect of Connecticut's program of communication was felt to be the necessity of parent counseling. The first year of program operation was a crucial counseling period because of the necessity of communicating with a large group of parents during the screening and identification process. An understanding of the concept of being talented and the implications involved in assisting their child as well as receiving informative program details was a part of the parents' orientation meetings. After the initial counseling, working with parents on an individual basis was suggested.

Financial Allocations

Connecticut has maintained that one essential component for providing programs for the academically talented students was a proper funding program. In 1967, Section 10-76 of the Connecticut General Statutes entitled the local

and regional school districts to be reimbursed for special instructional and supportive services for the talented.

This "special education umbrella bill" was a permissive for the talented student, not mandatory, and reimbursed two-thirds of the excess costs for each student without limitations. This state has not related the reimbursement plan to a specified IQ level, but specified about three percent of the academically talented of the state was eligible. Prior approval of the program was necessary as was set forth in the Policies, Procedures and Guidelines for Gifted and Talented Programs under Section 10-76 of the General Statutes, January 1975. The necessity to resubmit for approval each year was not a requirement.

Connecticut has been alert to federal funds which were permitted to be used toward these program provisions. Pooling these funds with state financial resources has added considerable strength and advancement to the state's programs. The state and federal funds have been used as:

A. Full-time consultative services--Funding Title V ESEA.

B. Preservice and inservice professional training--Funding Federal EPDA State and Private.

C. Out of the total 169 school districts, the growth has progressed from four districts in 1966 to sixty in 1970. Funding--state reimbursement.

D. More than 2500 teachers and leadership personnel have attended workshops and institutes to stimulate interest, disseminate information. Funding Title V P.L. 89-10.

E. Comprehensive analysis of existing programs in Connecticut to set long range objectives for state and local leadership. Funding Title V P.L. 89-10.

F. Other areas--One year differentiated curriculum development program, science centers, workshops to train professional personnel, regional school planning, planning programs in a multi-district fashion. Title III P.L. 89-10.

Administrative Evaluation

A Task Force on Program Evaluation has completed various approaches to this vital segment of talented programs. Professional educators in Connecticut have developed methods for the specification, differentiation, and evaluation of operational programs.

Connecticut has accepted the fact that the very existence of effective programs for these students depended to a great extent upon support from the boards of education, administrative and instructional personnel, and the communities involved. It was considered a justifiable expectation for these programs to be accountable for the time, resources, instructional outcomes, and fulfilling objectives to be known by those who have vested interest in the programs. Evaluation instruments developed by Connecticut were for use with individual students, overall program evaluation, parent surveys, instructional staff, and visitation. A close look was given to the program requirements which the state deemed necessary to govern the program.

State of Georgia Department of Education Program for the Gifted[283]

The interdependent program variables identified in the review of the literature will be used in presenting the State of Georgia Program for the Gifted. The basic sources of information for Georgia's plan for the gifted were listed below.

Rationale

Recognition that the gifted students differed from most youngsters gave a basis for these special programs in Georgia so that their needs would be appropriately met. Georgia's programs were intended to be in line with the identified abilities and educational needs of the gifted as well as the consideration of social and emotional exigencies of the program participants.

Identification and Placement of Candidates

Gifted youth in Georgia were described as being those students who have met the following criteria:

> Measured mental ability as indicated by observational criteria or the standard intelligence tests, mainly IQ, that placed them in approximately the upper two to five percent of the general school population.

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[283]Personal communication to the writer from an Education Advisor for the Gifted in the State Department of Education. Appendixes I, II, III, and IV, Historical Background of the Intellectually Gifted Program, and Fact Sheets.

A summary of several identifying methods was presented in the plan, but no mention was made of those being used in the state except the two listed above.

This state plan described the unique needs and characteristics of the gifted students. It also included a lengthy description of some concomitant problems which may have at times tended to overshadow the strengths and potential of the gifted. Georgia's plan alerted their professional personnel that independent attitudes sometimes formed by the gifted may become liabilities to these students which makes identification even more difficult. Georgia recommended identification of these students at the earliest possible age.

Staffing Patterns

A great deal of emphasis was placed on professional personnel who were involved in the gifted program in order to maximize overall program development. Special mention was made of the two full time state level personnel in consultative services. They provided consultative services to local school systems that were beginning programs as well as helping the established, operational ones.

Georgia Code 32-620 was part of the Minimum Foundation Program of Education which authorized special teachers for all exceptional children including the gifted. The program for exceptional children has allotted one instructional person to work with the gifted students in

public school systems who have submitted approved program plans. Teacher units were allotted under Section 20 Senate Bill 180 and were to be used as follows:

A. Coordinator or consultant of programs.

B. Resource teachers to work with classroom teachers of the talented.

C. Resource teachers who work part time with the classroom teachers and part time with the students.

The local school superintendent was to select someone in a supervisory and/or administrative role as a coordinator of the talented program.

The state has made strides in teacher certification in the area of the academically talented. In 1970, the State Board of Education approved the adding of the talented as an endorsement area to a Georgia teacher's certificate. This department has specified credential requisites of certification for teachers of the talented student. To hold a Georgia certificate to teach in the area of the gifted, personnel must complete fifteen quarter hours of graduate study prior to beginning work. These fifteen quarter hours should include:

Five quarter hours should be dealing with methods, materials, and curriculum for the gifted.

Five quarter hours should be dealing with the nature and needs of the gifted.

Five quarter hours should be of educational measurement.

Deadlines for completion of that certification by inservice

personnel were required. Records were to be reviewed to see that teachers working in this area were either studying or have completed the requirements to fulfill credentials.

Preservice and inservice preparation of personnel, especially the teachers, were part of the staff development program. Two of the universities granting doctoral degrees in the area of the gifted child were the University of Georgia and Georgia State University. Some of the content in the courses offered consisted of methods, materials, and curriculum area, the nature and needs of the talented, and especially educational measurement since it was a crucial area in identification of students.

Professional personnel were provided retraining so that they became knowledgeable on the educational needs of the gifted. This was to assure desirable curriculum changes, and increased the productivity of students, teachers, and other personnel. The inservice training for personnel who were working with the talented was described as covering the following:

A. Familiarity with the literature.

B. Formulating own beliefs concerning the education of these students.

C. Identification.

D. Assessing educational practices as applied to the talented.

E. Determining program type, reviewing and observing successful programs, and drawing up policies for local programs.

Administrative Strategies

There were no current descriptions of administrative designs or educational alternatives found in the Georgia plan. There were fact sheets included in Georgia's plan on arguments for and against acceleration and grouping but no follow up comments. Most of the material found in Georgia's plan on administrative strategies was outdated.

Curricular Modifications

Georgia urged the development of curriculum for the talented student to be in accord with the mental abilities of these students and also in line with the roles these students were to play in society. Curriculum adaptations should differ in degree of quality and excellence from those planned for the average student. As part of the goals for the Georgia program, the following pertained to the curriculum:

A. The gifted student was to explore new curricular areas, opening new doorways to learning, and learn more about himself and his potential.

B. Skills and attitudes of inquiry, critical analysis, and creative thinking were to be developed.

C. Process oriented curriculum rather than leaning toward product oriented.

D. Basic skills were to be emphasized without being overly repetitious.

Assessment of Students

Georgia's plan did not discuss the assessment of the student nor offer samples of instruments or rating reports.

Instructional Facilities and Materials

The Georgia plan emphasized the need to experiment with and/or implement new instructional materials and equipment as part of a differentiated program for the gifted. The local school system was expected to furnish the instructional materials and equipment which could not be purchased with state funds. It was considered to be the local system's responsibility to provide facilities such as classrooms needed to provide effective instruction along with using existing facilities.

Communication Channels

As part of the Plan of Development - Program for Intellectually Gifted Children and Youth, Georgia felt the need for community recognition of the importance of providing educational opportunities for these students. Included on the planning committee were professional staff members, parents, lay people, representatives from the business, service, and industry organizations, and college personnel. This was part of the implementation of the mandated programs under the House Bill 453.

Financial Allocations

Financial aid was provided to Georgia's programs for the talented student under the teacher unit concept. This was explained as reimbursement on the basis of the number of full time professional personnel directly

involved with the gifted program. Noted in this state plan was that local monetary support was necessary if state approval of the program was given.

Administrative Evaluation

In evaluating programs under the Georgia plan, a series of suggested questions were presented. These questions concerned educational provisions offered these students in a given program and were centered on topics such as the total program, identification and placement of the students, and the specific program provisions. No further information was given on program evaluation.

Illinois Plan for Gifted Children[284]

The interdependent program variables identified in the review of the literature will be used in presenting the Illinois Plan for Gifted Children. The basic sources of information for the Illinois Plan were listed below.

Rationale

The initial planning phase, 1959-1963, revealed a set of principles which served as the rationale for the Illinois Plan.

A. Differences existed in learning abilities of students. Talented students were found in

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[284]Gallagher, Research Summary on Gifted Child Education, The Gifted Classroom, (1971), Analysis of Research on the Education of Gifted Children, and Gifted Reimbursement Guidelines (Illinois: Department for Exceptional Children).

all parts of society, within all racial and ethnic divisions, and from a variety of home backgrounds.

B. Innovation which has occured in schools were to be kept in mind by the state when an educational plan was made.

C. Local initiative in these programs was encouraged by the state.

D. Flexibility was encouraged in state action in order to prevent establishing rigid formulas and detailed prescriptions.

Identification and Placement of Students

The Illinois Plan was shaped by 1963 legislation which encouraged and assisted the development of programs for the students who were mentally accelerated to the extent that special education experiences would be highly profitable.

Instruments used in identifying and screening candidates for the Illinois program were:

Individual intelligence tests
Group intelligence tests
Group achievement tests
Teacher observation
Student volunteers
Previous school grades
Creativity tests
Rank order

Out of the list above, group intelligence tests, achievement tests, and teacher observation dominated the instruments used more frequently. The state plan noted that flexibility in identification gave encouragement and opportunities to high achievers, students with exceptional

creative ability, and/or those with undeveloped potential. This particularly increased the retrieval of talent at different socioeconomic levels.

The local districts in Illinois have the freedom to establish their own norms for student identification. Instead of tying the talented child to an IQ number, Illinois encouraged selection on the basis of the relationship of the student's ability to the ability of others in the group from which he was selected. This plan was known as the policy of "open identification." Illinois stated that the identification process would use a minimum of three identification instruments which were to be stated in the preapproval application.

Staffing Patterns

The Illinois Plan maintained a state consulting staff of personnel who were qualified by personality, experience in consultative assistance, operation and evaluation of the programs for the talented. These consultants helped to administer the planned program development for the talented which included reimbursement programs, the demonstration centers, and the experimental projects.

The student teacher ratio in the talented programs was twenty to one. Interest, enthusiasm, and special training were the popular methods of teacher selection. At least one quarter of the districts in Illinois had no

formal procedure for selection of the teachers and very few had used intelligence as a criterion.

Fellowship grants to qualify persons who have indicated an interest in programs for the talented have been offered in Illinois. This was for full time graduate study designed to improve competence in this area. The receipient was expected to contribute five years of work in the state programs for the talented in return for the fellowship.

The Illinois Plan specified that each funded program must have a director. Approximately eleven percent of these programs have a full time director. Inservice training programs were emphasized in the state which involved administrators and teachers. About fifty percent of the districts have training for administrators and 99 percent conducted programs for the teachers. These inservice training programs consisted of:

Talented child research
Curriculum materials
Teaching methods
Administrative arrangements
Use of outside consultants
Visits to demonstration centers
Examination of own program problems
Classroom experience

Administrative Strategies

The Illinois Plan provided for demonstration centers which gave state educators and other citizens accessible demonstrations to a variety of approaches used with

the talented students. These centers exemplified these approaches:

A. Acceleration of the highly talented students.

B. Individualized instruction through team teaching, nongraded plans, and independent study.

C. Special classes for the highly talented, with specially trained teachers, supervisors, or consultants.

D. Special attention to talented students who were socially or culturally disadvantaged.

E. Special attention to the social and emotional adjustments of the talented students.

F. Curriculum improvement through experiences which emphasized higher level thought processes, creativity, divergent thinking.

Another part of the Illinois Plan was experimental projects which were conducted to advance knowledge about practical programs for the talented students. Funds were provided for these experimental projects in school districts, colleges, and universities.

For the most part, Illinois attempted to let local initiative and incentive ultimately decide which direction its program would take. Most program innovation occurred in the major disciplines such as language arts, science, mathematics, and social studies. A variety of administrative designs were used such as grouping by special classes and acceleration of subject content. These represented the most popular program arrangements. Written program plans were required to include a narrative description of the

program, identification criteria, goals, objectives and evaluation procedures.

Curricular Modifications

Methodologies used by the local school districts included inductive teaching, individual instruction, inquiry, and independent study. Particular emphasis was given in the Illinois Plan to mental operations such as critical, creative, logical, and analytical types of thinking rather than too much of the simple recall and memory work. These were considered to be curricular adaptations or teaching methods which were thought to be particularly meaningful to students identified as having high abilities or potential.

The state plan supported the following characteristics of programs for the academically talented.

A. Students should be involved in class activities and enthusiastic about them.

B. Be exposed to an intellectual climate and higher thought processes in the classroom.

C. Opportunities available for independent and divergent thought and action.

D. Program should not damage the student's self-concept.

E. An innovative program should exist.

Assessment of Students

Illinois did not specify the procedures for student assessment. It was felt that grading should be left to the discretion of the local program.

Instructional Facilities and Materials

A number of projects in Illinois was supported through research funds that had as their primary purpose to generate self-instructional materials for the talented students. These materials were to stimulate higher mental processes so that a minimum of teacher skill and preparation would be required. Some examples of experimental projects were: self-paced learning packets, utilization of special facilities as learning environments such as museums, and the field testing of curriculum materials and programs that related to independent learning processes.

A variety of instructional settings was found as part of the diversity in the Illinois programs which ranged from independent study to group discussions. These programs were held in conventional classrooms, resource centers, and laboratories. It was felt that existing materials and facilities should be used if possible.

Communication Channels

Illinois worked in close contact with the community in designing and implementing appropriate programs for these students. Parents were represented on both district and local advisory committees.

Financial Allocations

The Illinois Plan provided financial support for a wide variety of special services for the talented students,

the particular nature of which was determined by local needs and discretion. These state funds may be used for: services such as counseling, diagnosis, consultation of various situations, instructional materials such as books or for expenses related to inservice teacher training. School districts were given a rather wide latitude in the usage of the funds.

State assistance was provided for additional support such as:

A. Demonstration centers--showed a variety of educational programming for talented students.

B. Experimental Projects--State funds were provided for experimental projects in school districts, colleges, universities so that research can be done in curricular innovation, evaluations, and the impact of programming for talented students.

C. Training--Summer workshops, inservice training programs, year round fellowships and scholarships to provide competent personnel.

State reimbursement was not for the maintenance of operational programs but was intended more for the ones in the developmental stage or improvement. It did not support major curriculum projects, major longitudinal studies, nor basic social science research. Encouragement was given to obtain these funds from other sources. Preapproval of the program was noted as a necessity before receiving state reimbursement.

Administrative Evaluation

A comprehensive evaluation of talented programs was summarized for the 1963-1971 period. The Five Parts of the Illinois Plan were looked at closely. They were: reimbursement, training, demonstration, experimental, and staff. The seven major standards used to judge the state's talented programs were listed as:

A. Student involvement and enthusiasm.

B. Intellectual atmosphere.

C. Higher thought processes.

D. Independence.

E. Divergence.

F. Self-concept.

G. Innovativeness.

Self-assessment for teachers was to be conducted in training programs which emphasized group dynamics and interpersonal relations. Data for the evaluation was collected from the following sources:

A. Director interviews.

B. Teacher interviews.

C. Class Activities Questionnaire.

D. Original program proposal submitted to the state.

Redundancy was built into the instruments in order to compare responses from several sources. The end results of this data collection provided the evaluators with the primary measures so that the talented program could be effectively rated.

In submitting a proposal to the state department for preapproval, an overall plan for program evaluation was required. The plan was to specify:

A. Process the local district was to use in evaluation.

B. Person responsible for implementation of evaluation procedures.

C. Strategy/model proposed to measure overall impact of program.

D. Timelines for conducting evaluation.

E. Use of evaluation results to effect long-range objectives.

The Illinois Plan advised against acceptance of continuing program approval of those that did not include an evaluation of the current year program.

CHAPTER V

SYNTHESIS OF FOUR STATE PLANS

Data revealed in each of the four state plans were synthesized in relation to the content of the adopted plan and the interdependent program variables.

Rationale

A distinct pattern for each of the states revealed a philosophy that learning differences do exist among students. Educational provisions should be available to accommodate these differences. Appropriate educational opportunities were considered necessary to nurture the abilities of students with high cognitive-academic potential, the bright underachievers, and those with very superior levels of ability. California and Illinois noted the importance of providing for the culturally different or educationally disadvantaged students with high academic potential. Connecticut considered the bright underachievers and students with very high academic ability in their state plan. Viable educational opportunities for all the academically talented students were considered necessary

to enhance the changes for individual fulfillment as well as the betterment of society.

Local initiative for program development was especially encouraged in Connecticut and the Illinois Plan. Connecticut urged the three levels--national, state, and local--to join in by working toward developing educational provisions for the academically talented students. In all four state plans, goals and objectives were to be set forth in the initial stages of program planning.

Identification and Placement of Candidates

Identification of the target population in each of these states included varying definitions of an academically talented student which added further to the complexities. Definitions presented seemed to be on a more general level. Connecticut's plan included those students who had demonstrated outstanding capabilities and/or potential in the area of intellectual abilities. The talented youth in Georgia were considered to be those students who were placed in the upper two to five percent of the general school population as revealed by the standard intelligence tests and observational criteria. Illinois encouraged the selection of their talented youth to be on the basis of the relationship of a given student's ability to the ability of the others in the group from which he is selected. This was called the policy of open identification. California and Illinois specifically mentioned the inclusion of these

students who were culturally different or educationally disadvantaged but indicated potential.

Without exception, the four states used multiple criteria in the identification processes; some utilized more screening devices than others. Predominate measures in the Illinois program were group intelligence tests, achievement tests, and teacher observation. These were taken from a variety of nine different measures. Illinois gave freedom to the local school districts to set their own norms for identification with a minimum of three identification measures to be used.

Developmental case studies for each student were built in the California and Connecticut programs. These two states provided interprofessional collaboration among a screening committee for identification. This was done by a placement team consisting of teachers, principals, psychologists, counselors, and curriculum specialists.

It was noted in the four state plans that the baseline IQ determinant ranged from the upper two percent of the school population to five percent. All plans discussed the characteristics of the talented student as well as Georgia's discussion on concomitant problems which may be noticeable in the talented students. A consensus was noticed that all identification should have its beginning in the early school years and be continuous throughout the grades for student assessment and follow up.

Staffing Patterns

Leadership provisions for these state programs varied. California's concept of the Management Team was used for the management, training, planning, and evaluation of programs for the talented. Connecticut, Georgia, and Illinois placed a greater emphasis on the full-time consultant to provide a sense of direction and leadership to their programs.

Turning to local leadership, Connecticut, Illinois, and Georgia noted the necessity of one person to be an overall program coordinator or director on the local level. Illinois stated that the amount of director involvement dictated the quality and success of the program. Because of heavy responsibilities of a principal or a superintendent, Illinois specifically recommended that these persons not be in that important position if it can be served in other ways.

Preservice and inservice training received heavy emphasis and was determined a necessity in all four state programs. Prospective teachers, administrators, consultants, supportive personnel as well as the paraprofessional were the personnel recommended to be a part of this training. The teacher ranked high on the list for additional training to work with the talented students. California urged that inservice training models be made available for parents and members of the community.

It was generally agreed by the four state plans that preservice and inservice training helped to prepare the staff in developing higher intellectual, academic, and creative problem solving skills in the academically talented students. Through these training programs, areas such as pupil-appraisal, program planning, evaluation and the characteristics of the talented along with differentiated teaching strategies were often mentioned as the training program content.

Colleges and universities in Georgia and Connecticut have assisted with the preservice and inservice training programs in those states. They have made considerable progress in building toward degree programs up to the doctoral levels in the area of the talented student. To attract teachers who would specialize in the education of the talented, Illinois has offered fellowship grants to pursue graduate study in this area. The receipient was expected to contribute five years of work in the state programs for the talented in return for the fellowship.

Teacher qualities, both personal and professional, were noted as being highly important in California, Connecticut, and Illinois. Enthusiasm for teaching these students was rated high in personal qualities. Georgia's plan of instructional staffing provided teacher units with the use of one instructional person in each local school system that may act as a consultant or coordinator. These teachers

may work part time with the classroom teacher or share time with the classroom teacher and the students. Georgia has specified credential requisites for teacher certification in the talented area.

Job descriptions of all personnel involved with these programs were considered a necessity in Connecticut. Illinois left much of the job descriptions to be handled by the discretion of the local school district. California delineated the roles and responsibilities of the Gifted and Talented Management Team.

Administrative Strategies

At least fifteen different educational alternatives and curricular programs were considered in these four states. They were listed as:

Special classes with complete separation from peer groups.
Semi-separation designs.
Itinerant teacher approach.
Cluster approach.
District-wide center.
Regional center.
Special enrichment study.
Individualized instruction to care for varying abilities.
Regular class enrichment.
Tutoring.
Acceleration.
Special courses to help students overcome cultural disadvantages.
Innovative program option for a particular district.
Supplemental curricular activities.
Combination of any of these.

Special classes and acceleration of subject content were the most popular ones used in Illinois. Illinois emphasized

the importance of local initiative and incentive which would be the factors that ultimately would decide which direction its programs would take. In Connecticut and Illinois the administrative design was considered a secondary component because of the influence of the philosophy and objectives on the local school district level. Connecticut considered the educational and social make up of the community involved, geography, facilities, transportation as well as the political views of a given district in making decisions on administrative designs.

Connecticut listed fifteen program elements which they felt the local district should consider in setting up these programs as:

Program needs in the local school system.
Philosophy and objectives of the program including the long-range goals and the short-range objectives.
Type of population to be served.
Screening and identification criteria.
Service of professional and lay staff.
Physical facilities and transportation.
Special and general staff inservice training.
Differentiated learning and thinking activities for meeting the needs of the talented.
Administrative design.
Human and physical resources found in the community.
Financial aid--local, state, private, federal.
Evaluation of program.
Parent role and consent.
Services of special consultants.
Articulation of talented programs with the general education.

California and Connecticut emphasized the need for sufficient blocks of time to be set aside for the talented programs. California specified that two hundred minutes

per week be a part of the program requirements for the talented students and that this time would be spent in a qualitatively different program. California and Connecticut required a case study be assembled and kept up to date on each talented student. All four states required written plans for the talented programs. California and Connecticut required a description of the qualitatively different curriculum the talented students were to follow, and the teaching methodologies used in line with the characteristics of the talented students. Connecticut suggested that talented programs should be planned to relate to preceding and succeeding educational experiences.

Differentiated Curricular Modifications

In all four state plans the programs were to be operated on the assumption that differentiated curricula and instruction appropriately meet the unique needs of the talented student so that high-order intellectual skills could be developed. California and Connecticut strongly supported theoretical systems for classifications of thinking operations as those developed by Bloom and Guilford.

All four states urged that methodologies or teaching strategies include inductive teaching, individual instruction, inquiry and independent study. Each state underscored the need for further training in these areas and the inclusion of these teaching strategies in preservice and inservice programs.

California, Connecticut, and Georgia emphasized a two part view of the curriculum covering both product and process. In selecting the product, considerations were given to intellectual challenge and stimulus to pursue the exploration of increased knowledge. Emphasis on process included problem solving and inquiry skills.

California discussed the differential needs in curricular activities for the talented students and why they were considered as a necessity in serving the needs and abilities of these capable students. Support for these differentiated curricular activities were derived from:

A. The unique characteristics of these students and their abilities to think on higher intellectual levels.

B. Current technology and social conditions in the country.

C. Psychological findings concerning these students' learning abilities.

D. Organization and classification of knowledge and theoretical models which have proved useful to educators.

Assessment of Students

Rating scales, check lists, and questionnaires seemed to be a part of California's and Connecticut's state plans in the discussions of student assessments. Georgia did not discuss this program variable in their state plan. Illinois felt the need for grading to be left to the local district, therefore, this variable was omitted.

California presented the following examples of one type of student assessment used in their state. A rating scale consisted of:

Cognition (comprehending)
Memory (retention and knowledge)
Evaluation skills (analysis, synthesis)
Convergent production skills (application)
Divergent production (application, critical thinking)

Grading procedures found in Connecticut's plan topics were:

Higher levels of thinking
Motivational characteristics
Learning styles
Interpersonal relationships
Response to the format of the class
Independent study
Social behaviors

The Connecticut plan recommended that no letter grades be given on this student assessment instrument. California's assessment of students specified that evaluation of gifted minors should not penalize the student but offer a challenge.

Affective functioning as well as cognitive interventions were noted in the suggested evaluations of the students in California and Connecticut. These assessments were to aid the teacher and parent in understanding the learning characteristics of the student as well as an available guide to influence change and modification in the talented programs.

Instructional Facilities and Materials

Revealed in Georgia's and Illinois's plans was the need for existing facilities and materials to be used when

possible. Educational technology has produced numerous innovative devices but California particularly emphasized the use of the printed word. This provided problem solving situations, encouraged methods of discovery, divergent thinking, and gave opportunities for dialogue and discussions with peers and teachers. Conventional classrooms, resource centers, and laboratories were used in all four state programs.

Illinois encouraged the use of self-instructional materials to stimulate higher mental processes, and they could possibly be made by the students. This encouraged working independently with a minimum of teacher skill and preparation. The Illinois Plan suggested the utilization of special facilities as learning environments such as museums.

Communication Channels

Effective and efficient communication channels to the parents and the community at large were rated as high priorities in the developing and implementing programs in all four state plans. Connecticut and California saw a need in establishing communication both among educators and between educators as well as the community.

Georgia included in the planning committee for program development a number of professional staff members, parents, lay people, representatives from the business, service, industry organizations and college personnel.

This was an attempt to provide community recognition of the need for educational opportunities for their talented youth.

Connecticut and California sensed a need for parent counseling especially in the first operational year of a program when a student was screened, selected, and became a participant in the program. Parents have been involved as special resource people from the community in helping with the talented programs. By having parental consent and availability of written plans, California indicated these communication channels were part of keeping the parents and public informed. Connecticut further suggested ways to communicate with the community through seminars and workshops for the parents and presentations through parent, civic, and lay organizations.

Financial Allocations

Diversity in which these four states received categorical aid and for what purposes was noted. A basic requirement in all four states for reimbursement was prior approval of the proposed plan. Georgia required programs to have local level monetary support if the plan was to have state approval. To receive state reimbursement under the Illinois Plan, it was required that talented programs should be in the developing stage. The financial aid was not to be used for program improvement or maintenance of existing programs. An instructional reimbursement

program in the Illinois Plan followed a continuum of development from an awareness-planning phase to a programmatic phase, to an implementation-institutionalization phase. This continuum of development extended over a three-year period.

Connecticut and California pursued a number of Federal titles to boost the state and local committments and emphasized the necessity of combining these three sources if quality programs were to exist. To qualify for state aid California required the talented students to participate in a minimum of two hundred minutes per week in a qualitatively different type of instructional program for at least seventeen weeks of the semester.

Administrative Evaluation

Evaluation of the academically talented programs was considered an essential task in all four states if the goals and objectives were to be assessed and modifications made. Illinois conducted a comprehensive evaluation of eight years of operational programming in their state. Standards used to judge these programs were:

Student involvement and enthusiasm
Intellectual atmosphere
Higher thought processes
Independence
Divergence
Self-concept
Innovativeness

California, Connecticut, and Illinois used multiple evaluation instruments in order to compare responses from

several sources, to reveal the extent efforts were made to improve the programs, and also obtain a more objective evaluation. California and Connecticut used outside evaluators as well as personnel within the state to evaluate their programs.

Generally, evaluations from the four states suggested the following:

A. Objectives and goals were to be formed from the outset of the program and criteria set up to determine the extent the goals were realized.

B. Interventionist evaluations before completion of program so feedback and revisions can be made before completion of programs.

C. Inclusion of parents in program evaluation.

California also recommended the following for meaningful evaluations:

Evaluations should include:

Identification and placement of students
Administrative designs
Instructional materials and strategies used
General atmosphere of the school
Feelings and attitudes of nonparticipants toward the participating students
Total growth of the students who were involved in the program

Prior approval of program plans in Illinois required that the plan specify:

Process the district was using in evaluation
Person responsible for evaluation procedures
Strategy/model suggested to measure impact of entire program
Timelines or target dates for conducting evaluation
How evaluation results would effect long range objectives

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Restatement of the Problem

The purpose of this study was to investigate educational programs for the academically talented students in four selected state plans. The study was designed to include data collected from the state programs which were selected as case studies in a study conducted by the United States Office of Education.[285] The states were California, Connecticut, Georgia, and Illinois.

The study was to determine what relationship there was between the program proposed and the research base from which each of the selected plans originated. Investigation of each of the four state plans was to be done within the framework of interdependent program variables. The study was to incorporate the results of this application into guidelines for a program for students with high cognitive-academic potential at the elementary school level.

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[285]U.S. Commissioner of Education, Education of the Gifted and Talented, p. 51.

Review of the Procedures

Phase One

The first phase of the study was to review the literature pertaining to the development of programs for the academically talented. A review of the literature revealed interdependent program variables that were judged by experts to contribute to the effectiveness of a program.

Phase Two

Each of the four selected state plans was then subjected to a systematic review of the sequential development of each program. This was an attempt to determine the relationship between the state program as proposed in the adopted plan and the research basis from which each originated.

Phase Three

The four selected state plans were then analyzed to yield information on the differing solutions utilized by these four states in meeting the educational needs of the academically talented students. Specifically, it attempted to identify what data were found in each of the four state plans concerning the interdependent program variables identified from the literature. These program variables were considered essential features in successful programs for this defined group.

Phase Four

Data gathered from these phases were synthesized to support the inclusion of suggested guidelines according to findings concerning the interdependent program variables in the selected state plans. These guidelines were for the designing of academically talented programs in the elementary school.

Summary of Findings

The underlying assumptions of this study were that these four state plans would reveal identifiable characteristics useful in formulating guidelines for academically talented programs in the elementary school. Another assumption was that states providing appropriate leadership personnel and/or categorical financial aid would provide quality programs for this defined group. An analysis of the four state plans yielded useful information concerning the differing solutions in providing educational programs for the academically talented students.

A review of selected literature identified interdependent program variables which were judged by experts to be important characteristics of comprehensive programs for the academically talented. Study of these interdependent program variables found data that could be used in program practices in view of the behavioral potential of the academically talented students.

Sequential development of the four state programs provided a systematic review of the states in which each program had progressed. An analysis of these stages indicated a research base from which the California and Illinois programs had originated. Lack of evidence for a research base was revealed in Connecticut's and Georgia's programs.

Conclusions

Based on the foregoing summary of these selected state programs and a review of the literature, the following conclusions were made regarding essential or desirable interdependent program variables found in successful programs for the talented elementary school student.

Rationale

The literature and the state plans recognized that students differ in abilities; these differences are discernible and significant; and viable educational programs must be provided for the variations found in the intellectual capacities of the students. The literature and the state plans indicated that part of the philosophy of general education was that each student should have opportunities to achieve maximum potential as well as meet the needs of an increasingly complex world. This was particularly applicable to students defined as academically talented whether they were culturally different or educationally disadvantaged.

Philosophical considerations noted in the literature were that talented programs should be appropriate to the needs of these students and also inclusive of the general philosophy written by a given parent institution for all students. Particularly recommended in the state plans was the necessity of stating the philosophy, goals, and objectives in the initial stages of program planning. State plans emphasized the necessity for the three agencies--local, state, and federal--working together to make these programs an integral part of the total educational program.

Identification and Placement of Candidates

Characteristics of the academically talented were found in the literature with a noticeable lack of agreement concerning the many attributes of the talented. Both sources felt it necessary for educators and parents to draw on the characteristics of the academically talented students for a clearer understanding of those students and their needs.

The literature described a basic problem in the screening of candidates as that of defining the population. It was generally agreed by the literature and the state plans that a sound, logical definition of the talented was essential in the screening process. Some state plans gave opportunities for definitions and identification norms to be set by local districts.

Almost without exception, the literature and the state plans suggested the use of multiple criteria for maximum efficiency and effective identification. With the use of multiple criteria, there would be more assurance of selecting academically talented students from the total student population who have submerged in social, economic, and ethnic environmental conditions. These students tended to be sensitive to testing instruments, or had masked their potential for other reasons.

Predominate measures suggested by experts and the state plans were intelligence tests, teacher observations, achievement scores, teacher grades, and student volunteers. The literature and the state plans indicated that the individual intelligence test was considered the most effective but for economic reasons it was not used frequently. The literature agreed that teacher observation was used most frequently though it was not considered too reliable.

Some state plans as well as the literature recommended that a developmental case study be assembled on each candidate for talented programs. Included were suggestions of psychometric and academic data, developmental information, self-inventory, and professional prognostications.

Both sources recommended that identification and placement should come early in a student's school career and be continuous through the school years. The litera-

ture indicated this was highly important because the patterns of underachievement became entrenched during the primary years.

Staffing Patterns

Administrative. The literature and the state plans indicated the success of these programs depended to a great extent on the abilities and interrelationships between all staff members involved in these programs. Both sources specified the need for job descriptions to outline roles and responsibilities.

The superintendent's role was considered to be the prime leadership in the local district according to the literature and the state plans. This person was to obtain support of the board of education, and acquire adequate funds for the program. Among other duties, the superintendent was to provide a competent staff for effective administrative, teaching, and clerical help in the programs.

Considerable evidence was presented in the literature concerning the crucial role played by the principal. The dominant role of the principal was to work with the coordinator or director, the staff in its entirety, and act as a leader in the implementing of the program as well as the final step of evaluation. The principal controlled the encouragement of the staff to try new innovations and new teaching techniques in order to build quality programs.

Generally, the literature agreed that much of the responsibility of the local program must be to one person. This individual was to serve as a constant interpreter and advocate for the talented students and their programs. For the most part the states followed the one single coordinator concept; one state recommended it not be the principal because of the heavy duties placed on that position.

Instructional. The teacher was described as the central figure in these programs as revealed by the writings in the literature and the state plans. A basic role for the teacher was not a giver of information, but to stimulate intellectual interests.

Much discussion was noted in the literature and the state plans on the selection criteria for this staff member. State plans provided some suggestions which included personal as well as professional qualities. Typical qualities were listed as enthusiasm, energy, stimulating personality, strong intellectual background, rigorous in demands for learning, taking graduate courses designed to gain competence and understanding of the characteristics of the talented.

Supportive Personnel. The literature indicated further needs in the personnel field for skills of school psychologists, counselors, resource specialists, and teachers from subject matter disciplines. The need for supportive personnel and their efforts dedicated to the individualization concept of education was considered highly

important for this staff. It was recommended by two states that guidance and counseling personnel be available to give assistance in the testing program, identification, and work with the adults who were associated in some way with the academically talented students.

Preservice and Inservice Training. High priority was given to preservice and inservice training for all professional and paraprofessional personnel in the literature as well as the state programs. Experts described reasons for this additional training so that quality of learning, communication, diversity of classroom experiences, teaching skills, knowledge of subject matter, and an appreciation of the needs of these students would be evident. Through these training programs, the participants would be more informed as to what has been done in past educational programs for the talented as well as staying current on research that is up to date.

The literature emphasized additional training for all levels of personnel. Some state plans also recommended that parents, members of the community, and lay people be included in this training. One state articulated and coordinated these inservice training programs with colleges and universities which included the following:

> Planning, development, and update sessions in local school districts in the area of talented programs.
>
> Statewide year end update institutes to stay current on the latest information available on educating these students.

Presentations to Parent Teacher Associations, parent groups, civic, and lay organizations.

Another state encouraged their professional personnel to visit demonstration centers to observe operational exemplary programs in actual school settings.

The literature tended to agree that preservice and inservice training may counterbalance what may be described as inappropriate attitudinal characteristics held by professional personnel involved in these programs. It was suggested that training programs for prospective and inservice teachers should cover more content knowledge, develop a variety of methods and strategies for working with these students, and let these teachers have the opportunity to try these new methods under adequate supervision.

Administrative Strategies for Program Development

Three broad administrative designs were discussed in the literature as part of the educational alternatives in the academically talented programs. These were listed as acceleration, enrichment, and some type of grouping. The literature and the state plans indicated that a combination of these three designs were often used so that the strengths of each design would be enhanced and disadvantages minimized.

As to the adaptability of a particular design, the literature and the state plans agreed that workability in a given situation would be dependent upon development

of what was possible with what would be considered practical as well as feasible. The state plans emphasized the importance of this being a local decision and dependent upon philosophy and objectives of the particular school system. One state gave the local district a program option so that an innovative program design could be developed if desired without influence from other programs in the state.

Factors such as geography, facilities, transportation, social, political, and educational structure of the community involved should weigh heavily in the selection of administrative designs. The literature and the state plans noted that the design adopted for a given district should offer different learning fare not ordinarily found in a regular classroom.

Research indicated that early admittance to school increased the favorable features of acceleration. Almost universal agreement was noted in available research that two years was the upper limit of acceleration prior to college. A valid set of criteria was recommended for consideration before accelerating a student. Three states used some form of acceleration in combination with other administrative designs.

All four state plans used enrichment provisions in some way. No research reported in the literature was available to support the superiority of enrichment. Enthusiasm, ingenuity, and interest of the teacher and

administrator were mentioned in the literature as part of a successful enrichment program. It was thought that enrichment along with grouping or acceleration would be more effective insofar as an administrative design possibility.

Research evidence collected on grouping in the literature was inconclusive, however, the nature and extent of individual differences were more noticeable when grouping was used. Grouping into special classes with separation or semi-separation has met with less acceptance among educators, some parents, and the students. It was noted that some form of grouping to adapt content, method, and time in the academically talented programs was a favorable administrative design for using potential wisely.

In their plan one state recommended a low student/teacher ratio. Participation in a qualitatively different program for a specified length of time during the week or outside the regular school day was set by one state as 200 minutes per week. Another state recommended a significant block of time set aside for students to participate. All states required prior program approval for reimbursement or financial assistance. The pre-approval plans covered areas such as the time element, differentiated learner objectives, administrative design practiced, relating of preceding and succeeding educational experiences, and evaluation procedures.

Differentiated Curricular Modifications

The literature and all the selected state plans have recommended a distinctly different curriculum for the academically talented student with special emphasis on the higher levels of intellectual functioning in the cognitive domain. This proposed curriculum should be congruent with the unique characteristics of the academically talented student and the student's ability to learn.

The literature and the state plans were in agreement on the importance of appropriate teaching methodologies, the use of theoretical teaching-learning models and the deliberate separation of content with less emphasis on the product of learning and more on the process. In this way, the curriculum showed more possibilities of helping to determine the length, breadth, scope, and the gait the talented student would travel in academic pursuits.

The literature noted the master key for successful curriculum development for the talented was in the ability of the teachers to modify the curriculum to meet the needs of these students so that all students were not forced to a rigid curriculum structure. This supported the need for preservice and inservice training for all professional personnel as previously discussed.

Assessment of Students

Noted in the literature and three of the state plans was the necessity of assessing and evaluating each student's progress as well as evaluation of all program variables. Both sources revealed an elimination of official letter grading and reporting systems being replaced with rating scales, inventories, and checklists with narrative summaries.

The student assessments were to aid the teachers and parents in understanding the characteristics of the students, act as a guide in program revisions, and provide feedback to be translated into program modification. Affective and cognitive interventions were noted on available instruments listed in the state plans. The states had made considerable more progress in assessment instruments presented than what was found in the literature.

Instructional Facilities and Materials

The literature and the state plans agreed on the use of available and existing instructional facilities and materials when possible in these programs. The state plans tended to leave the facilities and materials up to local districts.

The literature emphasized the need for good libraries and laboratory space being available so that special techniques in independent study and research could be

learned by the talented students. Flexibility in the classroom was noted in the literature such as moveable chairs, tables for group work, speaker's rostrum, and space for work projects.

Both sources mentioned the need of audio visual materials commensurate with the abilities of these students. One state especially noted considerable use of a wide variety of instructional material with students participating in the selection of materials rather than passively accepting standard materials selected by someone else. Out of the many innovative devices available in educational technology today, one state continued to place heavy emphasis on the printed word for the talented students as part of their state plan.

Communication Channels

Inspection of the state plans revealed a close resemblance to recommendations made in the literature for efficient and effective communication channels. Substantial unanimity was indicated in the literature and four state plans so that recognition, understanding, and acceptance of the needs of the talented student would be accomplished through the professional personnel, parents and the community.

State plans noted the importance of communication both among educators as well as between educators and extending to the community at large. By maintaining effective communication channels, it was felt that the final

product would reveal increased interest and acceptance. A program which has emerged from communicative planning was considered more likely to fulfill the needs of the student participants as well as to gain the commitment of the school system.

All state plans suggested parents be involved in the process of making educational policies at the local level. One state went further by including on their planning committee representatives from businesses, services, and industry organizations as well as college personnel. Part of another state's plan was for mass education of the community by a two-way participation in the planning process and regular sharing of information through seminars, workshops, the media, speakers, and classroom visits. This communication flow was assumed and kept viable by the administration and instructional leaders. Parent counseling and assistance was noted in two states' plans especially during the first year of program implementation to help with the understanding of the child and to gather details on program operation.

Financial Allocations

The state plans generally agreed on one essential component of programs for the academically talented, and that pertained to the need for equitable, proper, and manageable funding. The literature nor the state plans offered less than rough estimates of program costs for several reasons. Some of these reasons were: no optimal

program has been funded, costs are absorbed into the regular budget, allocation and use of funds vary from state to state and district to district.

The literature agreed that the availability of funds was an obstacle to building and maintaining programs. However, for the most part, the literature contributors who had worked and associated in some way with these programs recommended prudence and making wise use of presently available resources insofar as facilities, funds, and personnel were concerned.

Several of the states were pursuing financial assistance through capturing money from federal resources where it was made available to the talented youth programs. The literature tended to encourage these actions, as well as encouraging financial assistance from private sources to supplement available state and local funds.

Administrative Evaluation

In the area of programming for the talented, the literature and the state plans recommended that evaluation be an on-going process from the very beginning stages to the point of determining program productivity. In this way, it was suggested that flexible programs can exist as well as improvements made, continuous in-process feedback at various stages, and suggested alternative actions for program modification.

The literature presented justifications for systematic evaluation of the programs. There appeared to be a need for evaluating instructional procedures to provide a basis for decisions made in an effort to improve the programs. Outside consultants may be necessary in the evaluation of these programs. Three state plans had developed instruments for evaluation of the total educational program including the school board, administrators, instructional staff, parents, and student participants.

Recommendations

Using the interdependent program variables as a framework, the following guidelines were developed to provide a sense of direction to an educational program for the academically talented students in an elementary school.

Rationale

A rationale for the academically talented programs should include a philosophy, goals, objectives, and evaluation plans. This should be completed in the form of a specific written statement during the initial stages of program development and available for public inspection. This written rationale should be constructed by a planning committee whose members are involved in some way with the newly planned academically talented program. By placing committee members on a temporary or rotating basis with other committees, a wider range of viewpoints and deeper

commitments to the program would emerge. The planning committee should use the literature, research data, and exemplary state plans as an information base for designing, developing, and implementing academically talented programs.

Individuals who will be responsible for the academically talented programs should be aware of philosophical implications pertaining to the controversial issues of egalitarian versus elite policies of education for these students. Opposing principles such as these must be resolved within a given school environment before meaningful education programs for the talented can be developed. Since degrees of intellectual abilities were noted among students, philosophic considerations for academically talented programs should accommodate these differentiated learning expectancies. Equal educational opportunities for students to develop their unequal talents would be an effective and most meaningful way of dealing with and providing for these differences. The academically talented students would be inhibited in their intellectual growth just as students on the other end of the educational continuum when appropriate opportunities are not provided to meet their individual differences.

A philosophical foundation for academically talented programs should establish the need for viable educational opportunities so that each student can achieve

maximum potential. Even though the general welfare and contribution toward improvement of society may be considered a legitimate goal, these considerations should be secondary in formulating a philosophy for academically talented programs. A more fundamental tenet of democratic faith would be to provide educational opportunities for the academically talented students in terms of their individual rights. Educational provisions should extend to all students with high cognitive-academic potential including those with very high intellectual abilities, bright underachievers, the culturally different, and educationally disadvantaged students. The philosophy for the academically talented programs must be consistent with the general philosophy adopted by a given parent institution.

The following general goals were recommended for programs for the academically talented students.

> To make the academically talented programs available to all identified as such. This would include the culturally different and educationally disadvantaged students.
>
> To coordinate preservice and inservice training programs for all who were to be involved with the program. This would include school board members, administrators, teachers, supportive personnel, and parents.
>
> To develop communication channels to the staff and the community for better understanding of the academically talented students and their educational needs.
>
> To provide job descriptions of all personnel involved so that roles, responsibilities, qualifications, and relationships for performance expectations will be established for program effectiveness.

To seek adequate funding for designing, developing, and implementing programs for the academically talented students.

To formulate evaluation procedures in the initial stages of program development that would assess the program as well as the student's progress. This should be done within the framework of the interdependent program variables.

A plan for periodic review of goals should be an integral part of the academically talented program operation. As the program progresses, experiences may suggest new goals or revision of the existing goals which should be formally accepted or rejected as part of an operational talented program.

Goals pertaining more directly to the student would be:

To provide differentiated opportunities for learning commensurate with the academically talented student's particular abilities.

To provide a learning environment which will enable the student to function on a high intellectual level.

To assist the talented students to show sensitivity and responsibility toward others and a respect for constructive ethical standards.

Specific learner objectives as a participant in the academically talented programs would be:

To excel in academic achievement and skills in the subject areas which would be commensurate with his abilities.

To excel in academic attainment through acquisition, organization, and evaluation of knowledge.

To use higher level mental operations in analyzing and defining problems and seeking alternative solutions to the problems.

To become motivated to achievement, creativity, and making wise use of having a strong mind.

Plans for evaluation of the academically talented programs should be a part of the rationale. Evaluation plans should encompass the total academically talented program within the framework of the interdependent program variables. Evaluation plans should be contemplated in the earliest preliminary assessment of a program and continued through the sequential stages to the point of determining productivity. Every attempt should be made to give the evaluation planning careful attention so that it will not become a farce or accomplish little toward program improvement. The evaluator should be involved from the initial steps of developing the academically talented programs. The planning committee can then be alerted to the necessary steps and the resources needed for an adequate evaluation.

Evaluation would need someone who has some knowledge and sophistication in measurement. An outside agency or consultant may be helpful in this task if personnel in the district are not available or qualified to perform evaluative studies in this area. Personnel should be available to communicate the evaluation findings if the results to be put into practice by the school board,

teachers, administrators, and parents are accomplished. The very existence of the academically talented programs depend upon support from those who have vested interest in these educational provisions which makes communication on the evaluation findings even more important.

Continuous in process feedback from the program evaluation should be considered essential so that an uncrystallized, flexible program can exist. This is particularly important in developing new academically talented programs since they need the freedom for flexibility and innovation as experience dictates. Evaluation of the academically talented programs should gather, analyze, and dissiminate information which would be useful in making action oriented decisions about these programs. Evaluation would suggest modifications, provide justification for curriculum changes, and assess strengths and weaknesses of the talented programs.

Redundancy in the use of a variety of evaluation instruments would compare responses from several sources and contribute to more objective evaluation of the talented programs. Models recommended for evaluation of the academically talented programs would be Stake's "Countenance" Model, Sufflebeam's CIPP Model, Provus's Discrepancy Model, Eash's Differential Evaluation Model, and Renzulli's and Ward's "DESDEG" Model. Additional instruments recommended for evaluation of the talented programs would be

attitude assessment of school boards, teachers, parents, and students toward the program. Instruments for evaluating preservice and inservice training programs and program operations with follow-up provisions would strengthen the evaluation process and are available for this task.

Evaluation plans should be considered mandatory program requirements before state approval is given for the program to operate and be reimbursed with state funds. An overall plan for program evaluation which is submitted to the state department for approval should include the evaluation process, personnel responsible, instruments to measure the impact of the program, target dates for evaluation, and how the evaluation results will be used toward fulfilling long-range objectives.

Identification and Placement of Candidates

The identification format should be arranged in a series of steps. These steps should include a definition of the academically talented, screening with the use of multiple criteria, actual identification, the building of a case study, and placement in appropriate programs with plans for follow-up.

Identification of candidates for the academically talented programs would require a sound and logical definition that would be workable in screening potential candidates. Even though state legislation may select a definition for use with the academically talented, the local

level should have an option to vary this definition to meet the needs of the community. This would be recommended because of allowance for environmental deprivation of students in a local district who may have underachieved scholastically. A varying definition may also serve the needs of students who have experienced educational opportunities which may have enhanced the building of higher intellectual skills. Expectations of the program and the social forces of the community should be considered before reaching an acceptable definition.

A recommended definition of the academically talented would include eligible students meeting the following criteria:

A. Limit program participants to individuals who rank in the top three percent of the student population in the state.

B. Indicated high achievement in schoolwork.

C. Identified by professionally qualified personnel such as administrators, teachers, counselors, or supervisors as showing high potential.

D. Performance has indicated general intellectual capacity but for reasons of being culturally different has not achieved high academically.

A screening and placement committee for identifying program candidates should be formed in the initial stages of developing an academically talented program. Interprofessional collaboration should consist of teachers, administrators, school psychologists, counselors, and curriculum consultants as members of the screening and placement

committee. Inservice training should be provided for all professional personnel for diagnosis and selection of program candidates. Candidates should be nominated from a wide variety of sources such as self-referral, teacher observations and ratings, parents, screening test batteries, peers, administrators, and child guidance centers.

The screening and placement committee should describe the characteristics sought in potential candidates for the talented program. Numerous lists are available and should be reviewed by the committee. A typical list of workable criteria would be the student enjoys learning, has unusual intellectual curiosity, responds to challenge, conceptualizes easily, and develops relationships. The student shows independent qualities in learning, highly advanced in achievement and language skills, high level of retention, persistent, has power of concentration, and has the ability to reason and use logic.

Multiple criteria for identifying program participants should be used. This would provide for the selection of students from the minority groups who may do poorly in a testing situation. Objective and subjective measures should be included in the criteria so that one would strengthen and supplement the other. Recommended measures for selection procedures were:

A. Group intelligence tests
B. Individual intelligence tests
C. Achievement tests
D. Aptitude tests

E. Personality and Interest Inventories
F. Teacher judgement
G. Student volunteers
H. Assessment of pupil ambition and drive
I. Appraisal of social and emotional maturity and adjustment
J. Parent interviews

Demonstrated or potential academic achievement according to professional personnel who would be familiar with the work of the student would be as follows:

A. School grades
B. Rating scales and checklists from teachers
C. Nominations by teachers and professional staff
D. Peer nomination and self-assessment

From the list above, the most frequent ones used in school systems would be teacher's judgement, group intelligence, and achievement tests. However, teacher's judgement would need to be reinforced by group intelligence and achievement tests with all findings substantiated by individual tests. The most effective instrument would be the individual intelligence test but because of time, personnel, and money involved it would not be practical for general screening. The individual test is useful in a borderline or doubtful case. The group intelligence test may fail to identify students with reading difficulties, emotional, or motivational problems. Achievement tests may fail to identify gifted underachievers unless the scores are used with IQ scores.

Case studies should be assembled on each candidate and kept up to date using developmental information, psychometric and academic data, self-inventory and professional

prognostications. The identification process should begin in kindergarten and continue through the school year. Early identification was particularly important since academically talented students face the greatest adjustment at school entry and patterns of underachievement become entrenched in the primary grades.

When the information concerning the student has been gathered and summarized by the screening and placement committee, appropriate programs with a projected educational plan should be a part of the student's developmental case study. Predictions for future achievement should be noted. Placement in the academically talented program and continued participation should be subjected to parent and student approval. Frequent and periodic assessments should also be a part of a student's developmental case study so that program modifications for the individual can be made, if necessary, in keeping with the new findings or evidence. Periodic reevaluation of the identification and placement of candidates would also give students a chance who may have transferred into the school or others who may have been missed for one reason or another.

Staffing Patterns

Each professional person involved in the academically talented programs has a unique role but share common interrelated tasks as part of a team working to achieve

maximum usefulness of the entire staff. For program effectiveness, job descriptions of all personnel involved with the academically talented should be established. Job descriptions should establish roles, responsibilities, qualifications, and relationships for performance expectations. This would help to pave the way for an honest and constructive evaluation of the job that has been done.

Administrative. Divisions for the administrative levels in the academically talented programs were the state, local school system, and the school. Roles and responsibilities on the state level concerning the academically talented programs should begin by establishing a state consultant for the talented programs. A state consultant should coordinate and articulate all segments of total planning and implementations so that these programs can efficiently be sifted down to the local level. State level assistance should provide a sense of direction, leadership, and consultative services to the local systems. The state level should also interpret and apply the state law and administrative regulations for the talented programs.

The role of the local school superintendent should be considered vitally important in initiating and continuing programs for the academically talented. The superintendent should work with the state and local system in acquiring and disseminating information on the needs of

the academically talented students within the school system. Additional roles for the superintendent should be that of providing leadership for the program through gaining support from the local school board and adequate financial assistance for making these programs a part of the total educational spectrum.. Further responsibilities would be that of providing a competent staff at all levels, obtain materials, implement inservice training, and evolve evaluation models for use with the talented programs. The superintendent should open and maintain channels between the community and the school system for the benefit of the talented students. The same function should be performed between the schools in the system insofar as the talented programs are concerned.

The administrative level which would be closest to the academically talented programs would be the principal. The principal should be knowledgeable about the program in its entirety and actively support the personnel involved. Being aware of the needs and characteristics of the talented would give the principal a basis for stimulating interest and concern among the staff to develop programs to provide for these students. An appropriate school climate which would free the teachers to try innovative teaching methodologies and receive support and encouragement from the principal would contribute to building quality programs. The principal should assist in obtaining needed

instructional materials and facilities. Further responsibilities would be that of communicating with the parents and the community at large concerning the academically talented program. The principal should develop a procedure to explain the program's purposes, progress, and activities as clearly as possible to district officials at all levels.

The principal should work cooperatively with other professional personnel in objectively evaluating the talented program. Principals should familiarize themselves with evaluation instruments and the idea of an outside consultant being used for program evaluation. A continuing self-analysis for the principal should be conducted in order to reassess responsibilities and roles in the program and the extent in which they are fulfilled. This administrative person must grow with the responsibilities that pertain to this position.

Overall responsibilities must be delegated to one person who has the authority to administer the total planning and implementation of the academically talented program. Because of the heavy duties of the principal, this program coordinator should not be given to this administrator. The appointment of a program coordinator would not remove the necessity for continued support of the program by the principal. The person who is chosen to be the program coordinator should be enthusiastic about working with the academically talented students and the program, preferably have had experience in this type of

education, and should possess characteristics of any teacher who may work with the talented students. This person should have some knowledge about psychological testing and be able to make decisions regarding the use of testing instruments in student assessment.

The role of the program coordinator should include coordinating all parts of the program through special committees, supervision of finance, preservice and inservice opportunities, articulate all phases of the program through administrative groups, and assist with evaluation of the program. The program coordinator must possess capabilities of orchestrating all interdependent program variables toward fulfillment of goals for the academically talented and their educational opportunities. The program coordinator should act as a constant interpreter and advocate for the talented and have the authority to arrange optimal learning situations and affiliations.

Instructional. The instructional staff should be carefully selected for the academically talented programs and should involve and recruit only teachers who are interested and enthusiastic about the program. The teacher should serve as a model of intellectual interest and develop high standards of achievement in these students. Members of the instructional staff should be adept in recognition and working with the attributes of the academically talented students. The teacher does not have to

be a genius but is able to appreciate it. The teacher should still be growing intellectually and not above learning from the program participants.

Qualifications of teachers assigned to work with the talented students should be on the personal and professional level. On the personal level qualities important for this instructional staff member would be the ability to inspire and motivate the talented students, self-acceptance and a sense of security, and a high energy level. The professional qualities should be those of having a strong intellectual and professional background, successful classroom experience, rigorous demands for learning, and the ability to work with fellow professionals and colleagues as well as parents. Other qualities should be flexibility, resourcefulness, knowledgeable in broad areas of disciplines, and teaching strategies which would more readily accommodate the needs of the talented students.

Supportive Personnel. A dedication to the individualization concept in education of the academically talented by the supportive personnel would strengthen the program. This would especially apply to guidance services and counseling which should serve as a primary instrument in achieving individualization as part of the opportunities for the talented. School psychologists, psychometrists, and guidance personnel should assist with screening and identification of candidates as well

as working with the adults involved in these programs. Psychiatric case workers may be needed for problems of adjustment in the highly talented students. These students may reveal a higher divergence from the norm or display extraordinary intellectual ability and need the professional help of the psychiatric case workers.

Job descriptions should be established in order to redefine the roles of the teachers and the counselors. This would be particularly helpful where roles overlap and lessens the chance of professional isolationism and an ineffective program for the talented students in the long run. Paraprofessionals would be a helpful assistance to the instructional staff in working in the talented programs.

Preservice and Inservice Training. Preservice and inservice training programs should reach all levels of persons involved in the talented programs including professionals, paraprofessionals, parents, and community members. This type of training should be considered necessary for the building and maintaining of quality programs for the talented, and state financial assistance should be available to support these preservice and inservice training programs.

Preservice and inservice training should consist of updating of research findings on the academically talented students and their needs. This specialized

training should prepare the staff in appropriate teaching strategies, student identification and assessment, differentiated program planning, the development, implementation, and evaluation procedures of an academically talented program. Benefits of preservice and inservice training have revealed themselves in operational programs by improving the quality of learning, diversity of classroom experiences, higher intellectual, affective and creative skills and a general acceptance of the talented programs by the staff.

Effective preservice and inservice training would best be accomplished through a cooperative relationship with the state department of education, colleges and universities, and on the scene action through the local school system. By combining these resources and the perspective of each, an on-going interchange of ideas from work and study projects should strengthen the talented programs and lessen insularity. Preservice and inservice training can be accomplished through planning, development, and update sessions, conferences, yearly sessions to remain current in latest programming for these students, and through PTA, civic, and lay organizations. Various types of workshops such as input, dissemination, and production workshops would contribute to upgrading the level of teacher competencies in working with the talented students.

There should be ways for the staff to attend the preservice and inservice programs other than on an after school basis. The staff would be more receptive to the preservice and inservice training programs if they were planned when staff members were more alert. The district should provide teachers with released time for these training programs, increments on the salary schedule, or some incentive to attend preservice and inservice training. Cooperative planning on the content of these training programs should help to satisfy the needs of the personnel who have the responsibilities for the implementation of the talented programs. Personnel involved with the talented programs would benefit from visiting demonstration centers or exemplary programs for the academically talented students.

In order to qualify for a teaching certificate in the area of the academically talented, a teacher should have at least fifteen quarter hours of graduate study prior to beginning work. Five quarter hours should be taken which pertain to the curriculum, methodologies, and materials that will be used with the talented students. Five quarter hours should be centered on the nature and the needs of the academically talented student; five quarter hours should be in educational tests and measurements. Fellowship grants may be awarded by a given state as an incentive to attract teachers in the field of the

talented student. A prospective teacher trainee at the master's degree level should have courses in psychology of the academically talented student, differentiated curriculum development, research pertaining to the talented, teaching practicum, learning theory, tests and measurements, and research techniques..

Administrative Strategies for Program Development

A program design committee consisting of administrators, program coordinators, teachers, supportive personnel, and parents should be organized in the initial stages of the planning. This committee from the school should assess the needs of the academically talented students and determine how these needs can be met. For the sake of objectivity, a second committee should consider the evaluation and the general effectiveness of the program on the students and the community. These committees should become familiar with research on the characteristics of the talented and the administrative designs that have proved effective. The literature and exemplary state plans should serve as an information base for talented program development.

Three general strategies for adapting educational programs for the talented students would be the upgrading of curriculum, learning styles, and learning environments. The three broad administrative designs used in programs

for the academically talented were acceleration, ability grouping, and enrichment. The decision to select one administrative design over another or pursue a composite approach should be based on careful appraisal of the designs before implementation in a given school system. Adaptability of a particular design should ultimately be decided by local factors and how it would affect the students in the program. Factors under consideration should be the educational, social and political structure of the community, geographical nature, physical facilities and transportation, monetary sources, and personnel. Consideration should be given to articulation and coordination of the talented program with the general education in the district and the extent it would match the objectives set forth in the program.

A sufficient block of time must be provided to enable the design to make a meaningful contribution to educational programs for the talented. A 200 minute time period each week would be recommended. To encourage innovative program designs, local school districts should have a program option which would not require state approval for reimbursement purposes.

Coexistence of the three broad administrative designs in a given program should provide strength to each one while minimizing disadvantages of a single design. No one administrative design should be expected to do everything.

Success of any administrative design would depend largely upon the enthusiasm, ingenuity, and interest of the instructional staff and the administrator.

Acceleration. Research evidence has tended to support academic gains through acceleration. Effects on social and emotional adjustment have generally shown no serious detrimental results. Early admittance to school has revealed favorable results as one form of acceleration. Selected students who have received testing and psychological examination and have revealed social maturity along with intellectual development should be admitted to kindergarten early. Acceleration in the form of grade skipping needs to be planned well in advance so the student would not miss essential skills. A valid set of criteria should be considered before a student is accelerated. This would include physical data, academic achievement, social maturity, and emotional stability.

Ability Grouping. Available evidence on ability grouping has been somewhat contradictory and inconclusive. Some professional educators opposed ability grouping on social and philosophical grounds. Some parents and educators have questioned the use of ability grouping because of the influence it would have on the student's self-concept. Available evidence indicated such fears were not well grounded. Grouping in some form reduces the range of abilities and achievement so the teacher can focus energy

and efforts on a more narrow band of abilities. A less accepted form of grouping by teachers and students was in the form of separate or segregated classes for extended periods or all day.

Clearly differentiated levels in a specific skill such as reading has seemed to be the most effective. However, grouping in separate classes or specific skills does not in itself help to develop the potential of the academically talented students but what actually happens in the class should be the crucial consideration. By using ability grouping as an administrative design, ways for adapting content, method, and time can be made operationally feasible in order to nurture the abilities of the talented.

Enrichment. Enrichment has received its main thrust from additive knowledge which embellishes the basic concepts or qualitatively different topics not ordinarily dealt with at any given grade level. In order to make the enrichment design effective in the academically talented programs, it should be used with either ability grouping or acceleration. A degeneration into busy work would be considered unnecessary if enrichment is employed with other administrative designs. This has been considered a practical administrative design since it uses the same student/teacher ratio along with the existing school

programs and schedules. Merely bringing materials down a grade level does not in itself build an effective enrichment design.

Program plans for the academically talented students should be formed within the framework of the identified interdependent program variables. To generate tangible program plans for the talented, school personnel should progress through some well planned stages. These stages should follow a continuum of development from an awareness planning phase to a programmatic developmental phase, and leading to an implementation-institutionalization phase. The awareness-planning phase should be used for identification of candidates, awareness workshops for those involved in some way with the talented programs such as board members, administrators, teachers, parents, and community members. Inservice training programs should be implemented during this phase.

The programmatic developmental phase should be used for pilot testing an instructional program sequence which should represent the synthesis of varying viewpoints of persons who participated in the awareness-planning phase. Inservice training of teachers of identified talented students should continue. After the pilot testing and tentatively assessing the results along with making modifications, the program should be adopted on a wider scale in the school and then exported throughout the system.

Implementation-institutionalization phase should be used for field testing the refined program on a wider scale and in more schools. Evaluation should be conducted on a wider scale and feedback should be available for modification and improvements.

Differentiated Curricular Modifications

Curriculum for the academically talented should only be characterized as such if it encompasses elements which could be distinguished from one that regularly serves all students. The curriculum for the talented students must be congruent with the characteristics of the students who have been identified as being academically talented. The rigid procedures that have imposed the same curriculum, the same schedule and class assignments regardless of the aptitude and maturity of the student should be changed if the educational needs of the talented students are to be met.

Differentiating curricular activities for the talented students should be provided through advanced content which would depend on the student's mental rather than chronological age. Students should be provided with learning experiences that would require critical, creative, logical, and analytical types of thinking rather than too much simple recall and memory work. Learning that would ordinarily be reserved for another grade or age level

should be available and in line with the characteristics of the talented student. Students should pursue resources beyond what is ordinarily found in books. This should encourage and develop research techniques.

Incorporated into the curriculum for the academically talented student should be the blending of product and process for teaching-learning activities. The key factors in the selection of content should be intellectual challenge and encouragement in the exploration of further knowledge. Process should apply to skill development in gathering and applying knowledge and improvement in the higher cognitive processes.

The use of theoretical teaching-learning models such as those proposed by Bloom, Guilford, and Bruner should provide categories, principles, or hierarchial lists of objectives. These teaching-learning models help to differentiate among experiences which should be used with the academically talented. Teachers must understand the basic tenets of these models if they are used within the framework of these programs. The emphasis on using these models should be on adapting them to the curriculum and the teaching process.

Teaching strategies should be aimed toward helping the talented student to develop a learning style that will remain with him in later years rather than just absorbing knowledge for the present. With knowledge changing so

rapidly, the academically talented must learn to cultivate ideas rather than let the ideas flourish at random.

Assessment of Students

Rating scales or checklists describing student behavior would be more useful in the academically talented programs. These reporting forms would be without letter grades and in preference to the traditional reporting system usually found in the elementary schools. Assessment of the students should be an aid to the teacher and the parent in understanding the learning characteristics of the student. The assessment should also act as a guide in influencing changes or modifications in the total program.

Affective functioning as well as cognitive interventions should be considered in the student's assessment plan. The student should be assessed as to the progress that has been made as a participant in the talented program. Recommended topics to be rated were cognition, memory with respect to presented material, evaluation skills such as analysis and synthesis, convergent production skills and application. Also included would be divergent production such as creativity, special skills for future achievement, motivational characteristics, learning styles and interpersonal relationships such as social, attitudinal, and emotional growth. The student should be assessed on a general response to the format of the class.

Follow up and further assessment completed on a yearly basis should include attitude scales, indexes of satisfaction, objective tests, and other measurements of the student's scholastic achievements. These new data should be kept in the student's case study.

Instructional Facilities and Materials

Existing instructional facilities and materials should be used whenever possible. The local school system should make plans for additional facilities or materials if the need should arise for use in the talented programs. Community facilities such as museums should be utilized when they would be to the best advantage of an effective talented program.

Adequate library facilities should be indispensable in successful programs for the academically talented. This facility should be used as a repository for knowledge and information as well as for independent study and research. The library should serve the talented student as a place of knowledge for the past and the present as well as developing techniques for increasing knowledge for future achievements. Laboratory spaces with open areas for projects and study would be highly desirable. Flexible room arrangements, moveable chairs, speaker's rostrum, tables for group work along with audio visual materials geared to the mental capacity of the talented student would be appropriate for these programs.

Self-instructional materials--some constructed by the students--should stimulate higher mental processes in the talented student with minimum teacher skill and preparation. Use of the printed word should guide the talented student into problem solving situations and methods of discovery, divergent thinking, and opportunities for dialogue with teachers and peers.

Communication Channels

As part of designing and developing a program for academically talented students, there should be a plan for communicating with the personnel, parents, and students concerning the program. All attempts to promote an awareness and understanding of the program should be coordinated so there will be no communication inconsistencies about the program. Recognition, understanding, and acceptance of the needs of the talented students would best be met through the communication channels with and through the professional personnel, parents, and the community.

Communication both among educators and in turn between educators and the community at large should keep the ones with a vested interest in these students informed and up to date on program progress. School advisory committees should appropriately include parents and members of the community in planning, operating, and evaluation of programs for the talented. An actively involved community that shows understanding and a sensitivity to change

should be a favorable asset in increasing the possibility of the talented program becoming an integral part of the total educational program of the school.

Educators should disseminate community information before the program is actually implemented. The community is not as acquainted with the nature of the academically talented program as they would be in programs for the handicapped. Communication via a two way participation in the planning process and regular sharing of information can be accomplished through seminars, workshops, newsletters, the media, speakers, and classroom visits. Consideration should also be given to using the students as communication representatives to talk about their talented program.

Financial Allocations

A proper, manageable, and equitable funding program should be an essential consideration in meeting the educational needs of the talented. Pooling federal, state, and local funds and being aware of available financial support for the talented programs should be a necessity if talented programs are to survive. Federal funds should have a special and definite designation for use in the talented programs if the states make use of the money for the talented.

Basic cost data should be accumulated through a statistical search which would give some estimates on local and state expense. The funding of an optimal program for

the talented and sponsored by the federal government would also be helpful in better estimating what these programs cost. The state funds should reimburse for services such as counseling, diagnosis, consultation, instructional materials such as books and inservice training programs.

Administrative Evaluation

Evaluation procedures and policies should be set forth in the rationale of the academically talented program. Recommendations for the evaluation procedures and policies were discussed in the rationale of this paper.

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APPENDIX A

COVER LETTER REQUESTING PROGRAM PLANS

The University of Oklahoma 820 Van Vleet Oval Norman, Oklahoma 73069

College of Education

1802 Logan Drive
Norman, Oklahoma
March 19, 1975

Dr. Paul D. Plowman
Gifted and Talented Management Team
721 Capitol Mall
Sacramento, California 95814

Dear Dr. Plowman:

Under the direction of Dr. Gene D. Shepherd, College of Education, University of Oklahoma, I am making a doctoral study in the area of academically talented educational programs. Since your state provides special programs and/or services for your academically talented students, I am interested in knowing what you are doing in this area.

My study will be to content-analyze the selected state programs and from these attempt to develop guidelines to provide differentiated programs for these students in other states and districts.

May I please have any manuals or guides which you use in your state programs. If you wish to have a copy of the findings of the study, please let me know. My sincere thanks for your assistance.

Yours very truly

Lelia C. Boyd

Lelia C. Boyd