IMPLICATIONS OF PHYSICAL AND INTELLECTUAL GROWTH CHARACTERISTICS, INTERESTS, AND CULTURAL FORCES FOR THE IMPROVEMENT OF THE MIDDLE SCHOOL PROGRAM

Thesis for the Degree of Ed. D.

MICHIGAN STATE UNIVERSITY

JOHN WARREN VAUGHN

1969

This is to certify that the

thesis entitled

IMPLICATIONS OF PHYSICAL AND INTELLECTUAL GROWTH CHARACTERISTICS, INTERESTS, AND CULTURAL FORCES FOR THE IMPROVEMENT OF THE MIDDLE SCHOOL PROGRAM

presented by

JOHN WARREN VAUGHN

has been accepted towards fulfillment
of the requirements for

Ed. D. degree in ELEMENTARY EDUCATION

Date July 2

ABSTRACT

IMPLICATIONS OF PHYSICAL AND INTELLECTUAL GROWTH CHARACTERISTICS, INTERESTS, AND CULTURAL FORCES FOR THE IMPROVEMENT OF THE MIDDLE SCHOOL PROGRAM

By

John Warren Vaughn

This study attempts to analyze research on the physical growth characteristics, intellectual growth characteristics, and interests of students ten- to fourteen-years-old. These factors, viewed in light of rapidly changing cultural forces are used to provide the basis for the development of guidelines which are offered as a general operational framework for a middle school program.

The research on physical growth revealed that human growth patterns are undergoing constant alteration in the direction of earlier maturation. The evidence indicated that, physically, students are beginning their ascent to adulthood sooner. In our American culture, these physical growth changes create many internal and external pressures on students over which they have little control. This often results in emotional and social anxiety and increasing tension. These growth changes have implications for education. School programs should be based on

IMPLICATIONS OF PHYSICAL AND INTELLECTUAL GROWTH CHARACTERISTICS, INTERESTS, AND CULTURAL FORCES FOR THE IMPROVEMENT OF THE MIDDLE SCHOOL PROGRAM

By

John Warren Vaughn

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF EDUCATION

Department of Elementary Education
and Special Education

1969

ACKNOWLEDGMENTS

The author is indebted to the members of his committee: Dr. Jean M. LePere, Dr. William V. Hicks, Dr. Calhoun Collier, and Dr. Wilbur B. Brookover.

The author is also grateful to his patient family.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

DESCRIPTION OF THE STUDY

Introduction

The past two decades have seen the advent of many educational innovations designed to reform the curricula of the schools. The reforms started with the Physical Science Study Committees in the 1950's and now include a myriad of projects in all the subject areas. While granting the positive contributions of the curriculum reformers, Sizer[1] points out an important limitation. "The major weakness of the reform movement today is its tacit acceptance of the way schools are presently organized."[2]

One current innovation which may eventually have great impact on educational reform, and which certainly seeks to challenge conventional organizational patterns, is the emerging middle school program.

The middle school is defined as:

> . . . a program planned for a range of older children, pre-adolescents and early adolescents that builds upon the elementary school program

---

[1]T. R. Sizer, "Reform Movement or Panacea?" Saturday Review, June 19, 1965, pp. 52-53, 72.

[2]Ibid., p. 52.

for earlier childhood and in turn is built upon by the high school's program for adolescence.[3]

A nationwide survey was conducted in 1966 to determine the trends in the middle-school movement. This survey revealed that 446 public-school districts in 29 states were operating 499 middle schools--schools which had grades 6 and 7 but did not extend above grade 8 nor below grade 4.[4]

In most school systems the term "middle school" simply refers to the "junior high school." The junior high school concept had its beginnings around the turn of the century when the Columbus, Ohio and Berkeley, California school systems developed 6-3-3 plans in 1909-10; however, Richmond, Indiana had placed its seventh and eighth grades in separate buildings as early as 1896.[5] Many of the early reorganizations, away from the 8-4 plan, were encouraged by increased enrollments, a factor which continues to influence school reorganization today, but the predominant influence was the desire

---

[3]W. M. Alexander, et al., The Emergent Middle School (New York: Holt, Rinehart, and Winston, 1968), p. 5.

[4]William A. Cuff, "Middle Schools on the March," The Bulletin of the National Association of Secondary School Principals, 51 (Feb., 1967), 82-86.

[5]"What Type of Middle School Organization Provides The Greatest Opportunity for the Development of the Adolescent?" Improvement in Secondary Education Through Group Studies, Sixteenth Yearbook, Penn. Branch National Association Secondary School Principals, 1960, p. 60.

to develop a school program that would provide a more suitable educational setting for adolescents. Educational change does come on a broken front: some schools by virtue of size or philosophy have not adopted the two-year junior high. The three-year junior high is still considered a questionable innovation in many districts. Still other districts view the two- and three-year junior high as outmoded and are turning to the three- or four-year middle school concept as the most desirable environment for preadolescents and early adolescents. Conant, noting this phenomenon of diversity nearly a decade ago observed that his 1960 survey found that there was no consensus among educators as to the best organizational scheme for students in the transitional years between elementary school and secondary school.[6]

The Need for the Study

The purpose of this study is to examine and compare the characteristics, needs and interests of preadolescent and early adolescent boys and girls and to make practical recommendations concerning the instructional program and organizational schemes that are most appropriate for students at the intermediate level.

---

[6]James B. Conant, Recommendations for Education in the Junior High School Years (Princeton, New Jersey: Educational Testing Service, 1960), pp. 9-11.

Recent surveys reveal a general uniformity and even conformity in middle-school course offerings. Regular class activities and extra class activities are almost identical in schools that were surveyed. Not one instance of interscholastic athletic activities was found and English, social studies, mathematics, science, art, music, and physical education were standard in all grades.[7]

The 5-3-4 plan was the most common, being used in 55 per cent of the districts while 30 per cent used the 4-4-4 plan and nine per cent favored the 3-5-4 organization.[8]

The rationale for the growth of middle schools is minimal and inconsistent. There were very few middle schools in Cuff's survey that came about as the result of specific middle-school planning and conception.[9] "Most of the decisions on what grades should be housed together seem to hinge on tradition . . . "[10] Perhaps worse than tradition is the tendency for boards of education to remedy overcrowding by placing students together on the basis of the availability of space.

Other reasons obtained for the growth of middle schools: integration is a factor in some cities,

---

[7]Cuff, op. cit., p. 83.

[8]Ibid. [9]Ibid.

[10]Ray Budde, "(5)-6-7-8, The Middle School of the Future," Michigan Journal of Secondary Education, 6:1 (Fall, 1964), 43.

population shifts within cities create abandoned buildings, pressure to restore the four-year high school eliminates the ninth-grade from the junior high in some cases, and temporary housing arrangements created others.[11]

Educators and laymen argue that the middle school movement is filling a void created by the functional failure of the traditional junior high. There are those who assert that the junior high, encumbered by the requirement of offering a ninth-grade high-school curriculum, has never been able to develop an identity of its own, one which is characteristic of the student it serves and thus it is dying for lack of purpose.[12] "For the 1960's and 1970's the junior high school is no longer a defensible unit of vertical school organization."[13] The arguments favoring the growth of middle schools seem to be in the negative: what we have isn't working--let's replace it with something better. Unfortunately, the process being used in the search for what's "better" has not been clearly defined and models of the "better" are sorely lacking.

Education in the last three decades of the twentieth century must prepare students to be effective citizens who

---

[11]Cuff, op. cit., p. 84.

[12]Eugene E. Regan, "The Junior High School is Dead," The Clearing House, 42:3 (November, 1967), 151.

[13]Budde, op. cit., pp. 44-45.

will spend the majority of their years as citizens of the twenty-first century. Given no dissatisfaction with the program or organization of the junior high school today, it would behoove thoughtful educators to review the current understanding of human growth and development and the sociological changes taking place today with a view toward providing a curriculum which is able to cope with the complex social needs of today and the foreseeable future.

Current literature on the middle school is limited in quantity, and with very few exceptions, limited in its theoretical perspective of the function of middle school education. Most writers still see the middle school as ". . . a transitional unit between childhood education in the elementary school and later adolescent education in the high school."[14]

Grooms, writing in 1967, identifies the middle school ". . . as the administrative unit following the elementary and preceeding the secondary school."[15] Granted that middle schools provide a program for students who are neither elementary nor secondary, the emphasis on transition has worked to the obvious disadvantage of the student and his program. To be tied so closely to both

---

[14]Samuel H. Popper, The American Middle School (Waltham, Mass.: Blaisdell Publishing Company, 1967), p. xii.

[15]M. Ann Grooms, Perspectives on the Middle School (Columbus: Charles E. Merrill Books, Inc., 1967), p. 4.

elementary and secondary education has placed a burden on the middle school program that has resulted in its past failure (when it was the junior high) and has jeopardized its future.

This study, therefore, will attempt to examine the characteristics, needs, and interests of preadolescents and early adolescents and to determine their implications for an educational program. The study is premised on the following assumptions:

1. A person's interests or wishes reveal much concerning his outlook on life. Findings with regard to the interests of children will tell us much that is significant for their education.[16]
2. The mental, emotional, physical, and social relationships, that are the characteristics of middle-school students, have strong implications for program building.
3. Children between ten and fourteen need physical and cognitive experiences appropriate to their age range.

The assumptions imply that the educator's understanding of the developmental growth of children should provide the basis or rationale for the organization

---

[16]Arthur T. Jersild and Ruth J. Tasch, Children's Interests (New York: Bureau of Publications, Teachers College, Columbia University, 1949), p. 9.

and program of the school. As Bruner said in Toward a Theory of Instruction

> It would seem much more sensible to put evaluation into the picture before and during curriculum construction as a form of intelligence operation to help the curriculum maker in his choice of material, in his approach, in his manner of setting tasks for the learner.[17]

Bruner is making a plea for a theory of instruction as a guide to pedagogy. He sees educators developing a prescriptive theory ". . . that is neutral with respect to ends but exhaustive with respect to means."[18]

Much of the debate concerning the middle school movement centers around the proper grade levels to house together. This is an argument that should be avoided. It presupposes that grade level designations are the sole appropriate ways of providing some general horizontal and vertical groupings of students. "The realities of child development defy the rigorous ordering of children's abilities and attainments into conventional graded structure."[19] Boys and girls from 10 to 14 have social, physical, emotional, and mental ranges that make grade level designations (impractical) in accommodating their developmental patterns. Students need to be treated as

---

[17]Jerome Bruner, Toward a Theory of Instruction (Cambridge, Mass.: Belknap Press, 1966), p. 30.

[18]Ibid., p. 31.

[19]John I. Goodlad and Robert H. Anderson, The Nongraded Elementary School (New York: Harcourt, Brace and World, Inc., 1963), p. 3.

individuals and the place of grade levels ". . . in the organization of a school system is of less importance than the program provided for adolescent youth."[20] Grooms supports this definition by describing a middle school where "the basic organizational component is the team consisting of student and teacher units."[21]

However, the concern in education for recognizing the individuality of students is one that poses certain problems for educators. As Simpson[22] views it

> The dilemma in education is the dilemma drawn from the extremes of these two views: separation, in which the individual must be his own self at any cost, and recognition, in which the strength drawn from the group has as its price the abandonment of individuation. Is the role of education to provide the child with recognition, with group membership and belonging - an unthreatened mass identity - which ignores the cost of conformity? The more thoroughly the child is socialized . . . the more he accepts its (the group's) perceptions and abandons his own. He is freed from the fears of isolation and loses . . . the tension and awareness which force him to utilize his own senses and mind.
> . . . . . .
> Is the role for education, then, the opposite, to allow for individuation and separation at the cost of group cohesion? No society whose members reject their membership can survive; a group is only individuals who perceive themselves to be in a particular relationship to each other.

---

[20] Conant, op. cit., p. 12.

[21] Grooms, op. cit., p. 6.

[22] E. L. Simpson, "The Individual in the Group," Phi Delta Kappan, Vol. 50, No. 6 (February, 1969), 322-323.

Simpson stresses the danger to society and the individual ". . . in following the doctrine of individuation to its logical extreme."[23]

> Recognition and separation needs are in a . . . delicate balance. The group for which we are educating the child must not ask too much of the individual - if by too much we mean the loss of selfhood - nor the individual too much of the group - if by too much we mean its disintegration as an entity.[24]

Any viable school program designed for older children, preadolescents and early adolescents, must recognize the contribution of individuals to groups and groups to individuals. Waller contends that our ultimate goal is ". . . to breed a generation of individuals who think for themselves and then integrate their thoughts, values, and commitments to the group . . . "[25] It is Simpson's view that individuals must get their thoughts, values and commitments from the group and that ". . . to begin with individualism does not seem possible."[26]

This study will attempt to identify needs, interests and characteristics of middle-school students as they interact with various types of groups.

---

[23] Ibid., p. 323.

[24] Ibid., p. 322.

[25] L. Waller, "Our Ultimate Goal," Social Education, Vol. 31, No. 8 (December, 1967), 702.

[26] Simpson, op. cit., p. 322.

Definition

This study focuses on children and their school programs--children who range roughly in age from 10 to 14 and by the definition used here are preadolescent and early adolescent children. "Adolescence is frequently defined as the intermediate stage between childhood and adulthood."[27] The problem with this definition, however, is that it implies that adolescnece is a discrete period that begins after childhood is over and before adulthood begins. "Some authorities divide adolescence into three periods: pre-adolescence, adolescence, and post-adolescence."[28] For the purposes of this paper the term pre-adolescence will refer to the period of physical and psychological change that begins gradually at the onset of pubescence; this period of change usually begins at about 10 in girls and about the age of 12 in boys. Since adolescence terminates physically with the establishment of mature body structure and psychologically with the establishment of relatively consistent interpersonal relationships, this paper assumes early adolescent boys and girls to be still moving toward physical and psychological maturity.

---

[27] Irene M. Josselyn, The Adolescent and His World (New York: Family Service Association of America, 1952), p. 3.

[28] Ibid., p. 6.

The characteristics of preadolescents and early adolescents will include physiological and psychological aspects. Numerous physiological and physical changes occur during this period:

1. Girls show a spurt in skeletal growth beginning about ten and terminating between the ages of twelve and thirteen.[29]
2. Boys start growing a year or two later than girls and continue throughout the early adolescent period.
3. Glandular changes related to puberty bring about the development of masculine and feminine characteristics. The growth of these characteristics continue past the age of 14 in most cases for both boys and girls.[30]
4. The basal metabolism rate changes (decreases) at the onset of puberty resulting in temporarily reduced physical activity in preadolescence.[31]
5. The size of the heart doubles.

The phychological characteristics of preadolescent and early adolescent boys and girls include:

---

[29] Ibid., p. 11.

[30] Max L. Hutt and Robert G. Gibby, The Child (Boston: Allyn and Bacon, Inc., 1959), p. 311.

[31] Ibid., p. 312.

1. increasing ego strength[32]
2. a minimum level of anxiety
3. an increased sense of responsibility and independence
4. a great need to be recognized as an adult
5. an intensified drive to activity in early adolescence
6. an uncertainty as to his ability

Grooms, in Perspectives on the Middle School, searched the literature and described students in the 10-14 age group as being:

> Vigorous, inquisitive individuals on the threshold of adulthood
> Sometimes awkward and uncertain, sometimes facile and adept, often troubled by self-assessment
> Frequently astonished by newly evolving powers
> Assiduously requiring proper occasions for exploration and venture
> Now and then capable of adult behavior and responses
> Often in need of opportunities for trial and error in situations where mistakes are admittable.[33]

These lists of characteristics are not designed to be exhaustive--they are intended to provide a framework for the definition of the term "characteristics."

The term interests, for the purposes of this study, deals with children's wishes, likes, and dislikes. What are the interests of children and what implications do

---

[32]Josselyn, op. cit., p. 17.

[33]Grooms, op. cit., p. 14.

they have for the school? According to Jersild we should ". . . look upon interests not primarily as aids or guides to learning but as forms of experience through which the child discovers and realizes the resources of his nature."[34] This implies that we should not merely utilize the interests a child has acquired as a guide to what and how to teach, rather, the interests can be ". . . the medium through which the child is helped to find a place in his social environment that is comfortable to him and others."[35]

Needs will be defined from a human development viewpoint as well as a social-emotional viewpoint. These needs for the 10-14 year old group might be stated as follows:

1. Environmental conditions to maintain growth and health.
2. A program of health services, practices, and instruction to educate children in the care of their bodies.
3. Conditions to enable children to gain the affection of those upon whom they depend.
4. Conditions to enable children to develop the skills and attitudes which are fundamental to a sense of security.

---

[34]Jersild and Tasch, op. cit., p. 86.

[35]Ibid.

5. Conditions to help each child develop a sense of worth and self-respect.
6. A school program to meet the needs of children for self-guidance and independence.
7. Curriculum opportunity to help each child grow continuously in academic understandings, powers of expression, emotional resources and working with others.

Mead emphasizes that early adolescent needs are changing dramatically.

> One of the striking features of the last two decades has been the steady spread downwards in age level of dating; going steady; pairing-off (rather than one-sex friendship); and in emphasis on vocational choice, criminal behavior, competetive athletics, religious affiliation, and permission to spend money on an increasingly lavish scale.
> . . . . . .
> The emphasis on earlier and earlier participation in adult activities is superficially incongruent with the junior high school movement designed as it was to protect the young adolescent by a separate pace of slower induction into the complexities of high school life. . . . When a type of school that was designed to cushion the shock of change in scholastic demands has become the focus of social pressures which were once exerted in high school the problems have been multiplied.[36]

Mead fears that the schools will continue to provide a program for early adolescents that is not appropriate to their changing physical and social needs. Among her

---

[36]M. Mead, "Early Adolescence in the United States," a chapter from "The Changing Junior High School Student," Bulletin of NASSP, Vol. 49, No. 300 (April, 1965), 5-10.

recommendations for corrective measures are the following: far better early childhood education; more differentiation by special interests within the schools; more association of middle-school students with younger and older students; and more recognition that middle school students have vastly different levels of physical, emotional and intellectual maturity. To Mead the students from 10- to 14-years-old are ". . . more unlike each other than they have ever been before or ever will be again in the course of their lives."[37]

This paper assumes that during the period of preadolescence and early adolescence the pressures from physical, psychological, and social changes create needs (physical, psychological, social) and interests in children that must be given primary consideration when developing a school organizational and instructional plan.

The Problem

The problem, stated in the form of a question, is: Can a school program be developed for boys and girls, roughly ages 10 to 14, that reflects their needs, characteristics, and interests?

Method of Study

This study will attempt to provide a thorough examination of the characteristics, needs, and interests

---

[37] Ibid.

of middle school students as revealed in a search of the literature. The data collected in the review of the literature will be verified or contrasted by a survey of different student populations. This study will then use these findings to construct a framework of criteria which can serve as guidelines in the establishment of middle school programs.

A. Data Collection

The study will be divided into three parts. The divisions are as follows:

Part One: Description of Study and Review of Literature

Chapter I: Description of Study

Chapter II: Physical and Intellectual Growth and Cultural Factors

Part Two:

Chapter III: Survey of Student Populations--Interests of Middle School Students

Part Three:

Chapter IV: Guidelines for the Improvement of a Middle School Program

Chapter V: Summary and Conclusions

B. Instrumentation: An Interest Finder

In Millie Almy's, Ways of Studying Children, the value of a teacher's wise use of her knowledge concerning her students' interests is given strong emphasis: "Recognizing that a child's happiness and success in school are

related to the interests he has, teachers often seek suitable ways of studying interests."[38] Almy suggests that there is a suitable instrument for this purpose--the Interest Finder. It has been used in all grades, from kindergarten through the high school since it was developed by Jersild and Tasch.[39]

During this study a modified version of the Interest Finder was administered to randomly-selected students in grades 5-9 from three school populations: in East Lansing; in Warrensville, Ohio, where the suburban population is rapidly changing from white to Negro; and in Cleveland Heights, Ohio, where the suburban population is 75 per cent Jewish. Since the instrument is designed to discover children's attitudes and feelings as well as their interests, the responses will not only indicate interests but also provide some insight into the characteristics and needs of the children.

C. Analysis of Data

The review of the literature will be used to provide a theoretical framework, from child growth and development research, for a middle school program adapted to the physical and intellectual growth patterns of children.

---

[38]Millie Almy, Ways of Studying Children (New York: Bureau of Publications, Teachers College, Columbia, 1959, p. 121.

[39]Jersild and Tasch, op. cit., p. 91.

The actual survey of student interests should provide useful data that can be applied to the development of valuable teaching strategies.

The responses will be used to answer the following questions:

1. Are there differences among age levels?
2. Are there differences between boys and girls?
3. Are there differences among racial groups?
4. Are there differences between religious groups?

Thus, the guidelines for middle school program planning will be based on a theoretical framework which will be supported by knowledge of the interests and attitudes of children in grades 5-9 from three school populations.

Limitations of the Study

1. Guidelines are rarely universally acceptable despite evidence of relative advantage.
2. Authorities in specialized fields will disagree about theories of adolescence and the educational implications of those theories.
3. Adolescence can be experienced in many different ways because of the combination of the major factors bringing pressure on the adolescent, thus the educational prescription for adolescence will of necessity be flexible and generalized.

4. Schools are under the influence of certain pressures that have not accepted documentary evidence in the past and will surely continue to resist evidence in the future. For example, it can be observed that educators have maintained school organizations, educational processes, and teacher education programs geared to students of a prior era.[40]

Review of the Literature

A major portion of this study consists of a review of related literature with a view toward providing documentation for establishing a rationale for planning a middle school program. Thus, it is not appropriate to include an extensive review of the literature in a separate chapter.

---

[40]Donald H. Eichhorn, The Middle School (New York: Center for Applied Research in Education, Inc., 1966), p. 104.

CHAPTER II

PHYSICAL AND INTELLECTUAL GROWTH AND CULTURAL FACTORS

Physical Growth

Changes in Physical Growth

Teachers, parents, and grandparents find it most disturbing to see children growing up in a way which differs from their own experience. This phenomenon is not new; but perhaps the gap between generations is greater now than it has ever been. Grooms[1] attributes part of this gap to the changes in the maturity rate:

> Having talked about change and change factors, I want now to look at a particular group of students in our public schools whom I feel need a changed system of education. I'm talking about the children in the 10- to 14-year-old group. The rate of maturation of this group has been increasing rapidly in recent years. Students in the 1960's are much more mature than their parents were at similar ages.

If Grooms is correct in her assumptions regarding changes in the rate of maturation of middle-school students, this fact would be of vital interest to educational planners. Effective education for any age level

---

[1]Ann Grooms, "The Middle School and Other Innovations," The Bulletin of the National Association of Secondary School Principals, Some Papers from the 51st Annual Convention, 51:319 (May, 1967), 158.

must take into account the learner and his biological makeup. If modern nutrition or some combination of factors has made young people larger and physically more mature than earlier generations, we would expect the children of today to have different social and intellectual interests than the children of the earlier generations. According to Mead[2] there are many complications resulting from early physical maturity:

> The children of today mature earlier and grow taller than their parents. These coupled with clothes which thirteen-year-olds share with nineteen-year-olds, make them seem bigger, older, more able to handle adult activities. The parent compares his son with his own image of himself as a boy. His junior high school son looks like a college student to him; often without consciously recognizing his own feeling, he treats him as older than he is.

Trends

It is now generally accepted that due to many factors physical maturation is occurring in individuals at an earlier chronological age than before and a marked trend in physical development is being reported. J. M. Tanner[3] observes that

> During the last 100 years there has been a very striking tendency for the time of adolescence, as typified by menarche or the adolescent growth spurt, to become earlier. The data on heights and weights of children of school age and before show that the whole process of growth has been

---

[2]Mead, op. cit., p. 9.

[3]J. M. Tanner, Growth at Adolescence (Oxford: Blackwell Scientific Publications, 1963), p. 143-144.

> progressively speeded-up and that all children born in the 1930's or 1950's for example, were considerably larger than those born in the 1900's. . . . The magnitude of the secular trend is very considerable and dwarfs the differences between socio-economic classes and between geographical regions within countries such as Sweden and the United States.

The United States' trends are similar to those reported throughout the Western world. Meredith[4] cites that in an age group from nine to fourteen, "Boys living in the United States, white and Negro, are 6 to 8 percent taller and 12 to 15 percent heavier than was the case half a century ago." Americans are increasing in stature as well. One study suggests that there has been a four-inch increase in height over the past fifty years and that year-by-year college freshman are showing height and weight increases.[5] In a similar study by Espenschade,[6] additional dramatic growth trends were also revealed. Girls were shown to be one inch taller and six pounds heavier in 1959 than girls, from the same school, who were measured in 1934. Boys, in the same study, were two

---

[4]H. V. Meredith, "Stature and Weight of Children of the United States with Reference to the Influence of Racial, Regional, Socio-economic and Secular Factors," American Journal of Diseases of Childhood, Vol. 57 (November, 1941), 932.

[5]C. A. Mills, "Temperature Influence Over Human Growth and Development," Human Biology, Vol. 22 (February, 1950), 71.

[6]Anna Espenschade and H. E. Meleney, "Motor Performance of Boys and Girls," The Research Quarterly of the American Association of Health, Physical Education and Recreation, Vol. 32 (May, 1961), 187.

inches taller and ten pounds heavier than boys in 1934. Other statistical studies[7] demonstrate a general world trend toward an increase in average height and weights for boys and girls for at least the last century.

The few trends that have been identified serve to indicate that, at least physically, the middle-school student of today is not the same as the student of fifty or even twenty years ago. In the remainder of this section an attempt will be made to define the 10-14 year-old in relationship to his physical growth.

Physical Development

"Physical growth is slow and steady for most children until the beginning of the pre-adolescent spurt . . . "[8] Their physical health tends to be very good and immunities to most childhood diseases have been developed.[9] Gesell and Ilg see the ten-year-old ". . . in good equilibrium . . . so adaptively and diversely in touch with the adult environment that he seems rather to be an adult in the making."[10]

---

[7]L. Cole and I. N. Hall, Psychology of Adolescence (New York: Holt, Rinehart, Winston, 1964), pp. 23-24.

[8]Hutt and Gibby, op. cit., p. 282.

[9]Ibid.

[10]Arnold Gesell and Frances L. Ilg, The Child From Five to Ten (New York: Harper & Brothers Publishing, 1946), p. 212.

If this quiet, stable period exists, it is not for long. At the age of ten in girls, and a year or two later in boys, the rate of growth increases and reaches its maximum for girls between the ages of twelve and thirteen, and in boys this maximum in growth occurs about two years later. Boys, who had a height advantage over girls in earlier years, often find themselves going through a three-or-four-year period where their stature is inferior to girls.[11] While most boys regain the height superiority by the age of fiteeen, the middle-school boy will typically spend four years "looking up" to many girls he formerly dominated by his physical strength and prowess. The effect of this reversal in relationships should be considered by those responsible for program development.

There are also male-to-male reversals during this period. A group of boys who have been much the same size and strength during the latent period (latent is the term used by English and Pearson to denote the period between infancy and pre-adolescence) may become very dissimilar in size and strength during the early part of adolescence. They are no longer equally capable of competing physically with each other and in their social relations. The relatively weaker and smaller ones find themselves at a disadvantage they had not experienced before.[12]

---

[11] Josselyn, op. cit., p. 11.

[12] O. Spurgeon English and Gerald H. J. Pearson, Emotional Problems of Living (New York: W. W. Norton and Company, 1955), pp. 323-324.

While studies seem to show, via statistical averages, that there is a normal growth process during which characteristic changes occur, the timing of onset of pubscence and magnitude of these changes will vary tremendously from individual to individual. "Not only are there markedly different rates of growth among various individuals, but there are also and often marked differences as to the rate of growth of various systems of organs in the individual himself."[13]

Hathaway's[14] charts for the height and weight of boys and girls clearly demonstrate differences among individuals at the same ages. In one case, girls at the same ages showed differences of 7, 16, and 12 inches between the tallest and shortest. The differences between the tallest and shortest boys at ages 2, 10, and 19 were successively: 4, 10, and 12 inches. It would appear that teachers should expect to find pupils of all sizes and shapes in their classes.

The individual variations in growth create severe problems for the child, male or female, whose growth pattern produces an inadequate physique during early adolescence. "In American culture the boy who is short or weak or lightly muscled is likely to lose status among

---

[13] Ibid., p. 324.

[14] M. L. Hathaway, "Heights and Weights of Children and Youth in the United States" (Washington, D.C.: U.S. Department of Agriculture, 1957), pp. 92-93.

his age-mates . . . "[15] For a student who sees himself as awkward, un-coordinated, and poorly-postured due to this erratic or incomplete growth, this period sometimes creates social embarrassments than are humiliating and defeating. He feels inferior and will often attempt to compensate for his feelings of inferiority by ridiculing others, attempting to do the physically impossible, exercising to change his body, and at times, withdrawing from society to hide his embarrassment.

Jersild[16] found in a study that middle-school children most often mentioned physical characteristics in describing what they liked and disliked about themsevles. "At the senior-high-school and college levels there was less mention of physical characteristics than at the middle high school range."[17] Jersild maintains that a person may have a generally positive body image or he may have a generally negative body image, and body size is a major factor in the development of this self-view. "Body size was mentioned considerably more often in accounts of what was disliked than in descriptions of what was liked, and this greater frequency of mention of dislike held true consistently for all grade levels."[18]

---

[15] Simpson, op. cit., p. 29.

[16] A. T. Jersild, In Search of Self (Bureau of Publications, Teachers College, Columbia, 1952), p. 64.

[17] Ibid. [18] Ibid., p. 68.

It is probably well to re-emphasize the importance of the vast differences between and within individuals. Children are maturing earlier and they are taller and heavier than earlier generations; however, it must be pointed out that the differences still exist. It is painfully obvious to observers who visit the middle-school classrooms that men, women, and children can be seen occupying adjacent seats and often reacting to demands from a curriculum that fails to account for these variations.

Sensory Growth

While most teachers are aware of the difficulties that the rate of physical growth produces for the middle-school child, they are not always aware of the effect of a similar growth in the sensory sphere. "During pre-puberty and puberty there seems to be an increase in the ability to distinguish finer shades of color and sound and an increased capacity to perceive stimuli from the external world."[19] It is not known whether these increases result from an increased development of the sensory organs ". . . or from the erotization of the avenues of sensory intake due to pubertal changes."[20] It may be a combination of both factors. No matter what the exact cause, the child is flooded with changes in sensory acuteness.

---

[19]English and Pearson, op. cit., p. 325.

[20]Ibid., p.

These changes in sensory perception appear to be one of the factors responsible for a disturbing condition that has been observed in middle-school children.

> One day the individual is bright and alert, interested and appreciative of the world, reacting to it, feeling it, singing its praises. The next day he may be apathetic, disinterested, unable to learn, often unable apparently to hear the simplest statement or see the most obvious detail. He appears feeble-minded.[21]

Neither the child, his parents, nor his teachers are able to understand why he is so moody or why he behaves so stupidly.

> The phenomenon has no relation to any environmental changes. It is part of the process of growth and will disappear as growth is attained. Analagously, somewhere around the seventh grade many children start to do poorly in school and this decline may last the better part of the school year. The next year they attain without trouble the degree of excellence that preceded the lapse.[22]

The effects of sensory growth, an aspect of growth not well covered in the literature, appear to be similar to those of physical growth. They injure the individual's pride for he and others see his actions as stupid and uncalled for. They leave vanity diminished; and, this lowered self-esteem might well contribute to the fidgetiness, restlessness and moodiness of prepubertal children.

There is very little that a teacher can do except provide ". . . much understanding patience, some explanations that these difficulties will pass on as the

---

[21] Ibid., p. 326. [22] Ibid.

individual grows older, and as much avoidance of criticism and reprimand as possible."[23]

If the teacher can merely be aware that the student's behavior is not a lack of respect for the teacher or learning or society, some progress can be made. The student who appears to temporarily loathe school and teachers could very well be reacting to anxiety and tensions, over which he has no control, that are related to the normal but devastating physiological changes that are occurring within his body.

Sexual Maturation

There are many obvious disagreements about the meaning, definitions, and effects of sexual maturation in middle-school children. Part of the disagreement and confusion is related to the meaning of adolescence. There is a tendency on the part of many writers to confuse adolescence with the biological maturation of sexual characteristics. "Although it is a fact that primary and secondary sexual characteristics mature during the adolescent period, merely because an individual has the capacity for biological reproduction . . . does not mean that he has reached the adolescent stage . . . "[24] A distinction must be made between puberty and adolescence.

---

[23] Ibid.

[24] Hutt and Gibby, op. cit., p. 307.

Puberty simply refers to the ". . . maturation of the physical aspects of sexual organs . . . "[25] Our concern with middle-school students will be with both their physical transformation and the resultant psychological changes, but the emphasis at this point is on the physical aspects.

Preadolescent sexual development appears to begin a few years prior to the onset of puberty. These changes usually occur in girls at either nine or ten, in normal cases. The study by Nathanson, Towne, and Aub[26] indicates that young girls between the ages of nine and twelve show a marked increase in the production of estrogens, a female hormone. Prior to this age both boys and girls secreted these hormones. This is the beginning of a series of changes that transform the girl, physically and psychologically, into a woman. The presence of these hormones and the rate of the secretion appears to be a significant factor. Sollenberger[27] compared boys having a high male hormone output with those having a low one,

---

[25] Ibid.

[26] I. Nathanson, L. Towne, and J. C. Aub, "Urinary Sex Hormone Studies," in Physique, Personality, and Scholarship, ed. by R. N. Sanford, a Monograph of Society for Research in Child Development, Vol. 8 (1943), pp. 70-81.

[27] R. I. Sollenberger, "Some Relationships Between the Urinary Excretion of Male Hormones by Maturing Boys and Girls and Their Expressed Interests and Attitudes," Journal of Psychology, Vol. 9 (1940), 179-189.

and found that the high group had more interest in heterosexual activities and strenuous sports.

While boys do not have such a dramatic event as the menarche to mark the onset of their pubescence, there are several events or characteristics that can be observed: the production of pubic hair, ejaculation, and voice change. Kinsey[28] in 1948, found that 10 per cent of the boys in his study had formed pubic hair at age eleven and 90 per cent by age 14. With regard to ejaculation, about 10 per cent had experienced this by age eleven and 82 per cent by age fourteen. Voice change had occurred in 3 per cent of the cases at age eleven and nearly 70 per cent of the cases by age fourteen.

Although puberty does not necessarily precede adolescence, it does normally initiate this period. Jersild[29] has summarized the ages at which boys and girls obtain puberty. His criterion for boys was the development of pubic hair. He found that 18 per cent of the boys have obtained puberty at thirteen years of age and 46 per cent at age fourteen. At age fifteen, seventy per cent have obtained puberty and 93 per cent by age 16. While Jersild found that the average American girl reaches menarche by

---

[28]A. C. Kinsey, W. B. Pomeroy, and C. E. Martin, Sexual Behavior in the Human Male (Philadelphia: Saunders, 1948), p. 130.

[29]A. T. Jersild, The Psychology of Adolescence (New York: The MacMillan Company, 1963), p. 12.

about the age of 12 1/2 years, his study also revealed that 3.2 per cent of ten-year-old girls reached menarche and 3.2 per cent as late as the age of fifteen.

Sex Awareness, Feelings, and Desires and Education

"Partly because of their more rapid sexual (and social) development, girls are much more sex-aware than boys--though less outspoken about it."[30] Girls observe their menarche and are very much aware of their own breast development and it would hold true that girls are more sex aware--but only at the preadolescent stage. "Boys frequently experience sexual arousal and tension which they urgently desire to discharge through orgasm."[31] Kinsey[32] maintains that with regard to number of orgasms of all kinds, adolescent boys greatly exceed adolescent girls. When sex feeling or arousal is taken into account the girls appear more responsive. By age 13, 34 per cent of girls have experienced sexual arousal.[33]

---

[30]A. Gesell, F. L. Ilg, and L. B. Ames, The Years From Ten to Sixteen (New York: Harper and Row, 1956), p. 45.

[31]M. S. Smart and R. C. Smart, CHILDREN, Development and Relationships (New York: MacMillian, 1967), p. 454.

[32]A. C. Kinsey, W. B. Pomeroy, and C. E. Martin, Sexual Behavior in the Human Female (Philadelphia: Saunders, 1953), pp. 67-68.

[33]Kinsey, Pomeroy, and Martin, op. cit., pp. 512-513.

These data are given only to indicate that the average middle-school student has had strong sex feelings and desires, the boy more frequently and acutely than the girl. Given these feelings, they appear to be very interested in securing information about sex and babies. "Many seem to have forgotten the knowledge they received at an earlier age."[34] Many parents and teachers find that children who have been given sex information when they were younger receive this information anew, in the middle school, and receive it with a shock.

The child is now becoming an adult. He is in a new and confused state and he is very anxious about himself. His body maturation, combined with the yearnings that are strange and compelling, together with the sex information that describes certain roles he must play, are factors that occasionally only offer the preadolescent confusion and despair.

> The young adolescent's dilemma, therefore, gives us some indication of the kind of sex education needed at this point: an education that does not leave him isolated in his own confusion, that does not uncover or probe into his helpless feelings or arouse feelings of incompetence.[35]

One of the most comprehensive surveys of child-rearing practices in the area of sex training or sex

---

[34]Gesell, Ilg, and Ames, op. cit., p. 45.

[35]M. Lawrence and F. K. Lawrence, Your Adolescent at Home and at School (New York: The Viking Press, 1956), p. 38.

education is provided by Sears, Maccoby, and Levin.[36] These authors point out that parents generally attempt to give sex training by controlling the amount of information the child gets. That is, parents are fearful that their children will engage in sex activities and overtly try to reduce or limit the child's sexual behavior.[37] The difficulty and frustration of trying to educate and at the same time limit the information is very distrubing to teachers and parents.

Effects of Maturation

Is there a causal relationship between physical maturity of students and their behavior? A number of researchers have measured the physical characteristics of students and related them to student behavior.

In one study[38] a staff of trained observers assessed a large group of adolescents on a number of personality variables, and boys who were consistently retarded in physical development were also rated lower than those who were consistently accelerated, in physical attractiveness, grooming, and matter-of-factness;

---

[36] R. R. Sears, E. E. Maccoby, and H. Leving, Patterns of Child-Rearing (Evanston: Row Peterson, 1957), p. 181.

[37] Ibid., p. 182.

[38] M. C. Jones and N. Bayley, "Physical Maturing Among Boys as Related to Behavior," Journal of Educational Psychology, Vol. 41 (1950), 121-148.

and higher in sociability, social initiative, and eagerness.

Jones[39] investigated the long-term consequences of physical acceleration or retardation during adolescence and found that group differences in physique had practically disappeared by the time early- and late-maturing subjects had reached their thirties. Jones concluded that the early-maturers presented a more-consistently favorable personality picture with regard to important social variables than did late-maturers. The association between physical growth and social development appears to be a strong bond indeed. A study by Stone and Barker[40] reported that a greater proportion of postmenarcheal than premenarcheal girls of the same chronological age indicate a greater interest in personal adornment and day dreaming activities. The physical change appears to have an impact on social development.

The frustration and confusion of growing up is often compounded by the attitudes of parents. While parents keep reminding the young adolescent that he is growing up and should be assuming more responsibility, they often stifle his attempts at independent behavior

---

[39]Mary C. Jones, "The Later Careers of Boys Who Were Early- or Late-Maturing," Child Development, Vol. 28 (March, 1957), 113-128.

[40]C. P. Stone and R. G. Barker, "The Attitudes and Interests of Premenarcheal and Postmenarcheal Girls," Journal of Genteid Psychology, Vol. 54 (1939), 61-62.

by reminding him that they are his parents and he is too young to know what is best for him. The typical parent appears to have genuinely ambivalent feelings about the growing-up process. Parents want the child to grow up to happy adulthood, yet they are fearful that he cannot handle independence without their protective guidance.

Although the attitude of parents is a significant factor influencing the social and emotional development of the early adolescent, the physical growth pattern itself is more significant. During the period of rapid "growth spurt" the child's physique actually becomes unfamiliar to him and he finds himself inhabiting a strange body. According to Josselyn[41]

> The unfamiliarity with the body may explain the apparent discrepancy between the actual clinical tests of motor coordination and the casual observation of the child in his day-by-day living. . . . Tests indicate that during the period of rapid physical growth there is also an increase in manual dexterity and muscle control. Since the young adolescent is usually described as awkward, the findings seem contrary to common observation.

The answer to the riddle appears to be in the fact that the awkward adolescent only <u>appears</u> awkward because he has not learned to use his new body. If he is an accomplished swimmer he is not bothered by growth. Rather, he becomes a better swimmer. Adolescent girls

---

[41]Josselyn, <u>op. cit.</u>, p. 325.

can learn posture control quickly. The adolescent child must be taught to use this new body of his.

Mussen and Jones,[42] in 1957, in a follow-up to the Jones and Bayley study of 1950, investigated the relationship between rate of physical maturation and important aspects of personality structure. An analysis of the data from that study indicated that late-maturing boys are more likely to have negative self-conceptions, feelings of inadequacy, prolonged dependency needs, and rebellious attitude toware parents. The early-maturing boys presented a much more favorable picture during adolescence. Relatively few of them felt inadequate, rejected, dominated or rebellious toward their families.[43]

All of these findings clearly indicate that the rate of physical maturing may affect personality development in important ways. "However, it is important to note that in any particular case the effects . . . may be significantly modified by the individual's psychological history and present circumstances."[44]

---

[42]V. H. Mussen and M. C. Jones, "Self-Conceptions, Motivations, and Interpersonal Attitudes of Late-Maturing and Early-Maturing Boys," Child Development, Vol. 28, No. 2 (1957), 243-265.

[43]Ibid.

[44]Ibid., p. 256.

Physical Growth and Identity

Jersild[45] takes the position that the most important task for child psychology and for education is to find out how the educational program might help the growing person to understand and accept himself. According to Ambrose and Miel[46]

> As the growing child moves into puberty and adolescence, he is confronted with the task of establishing an identity, of determining just who he is and what he is and his place in society is. He also has to learn to accept and live with a changing body. All these concerns cause some children a great deal of anxiety and uncertainty. Young adolescents in our country seem to seek their assurance through being solidly "in" with a peer group.

Smart and Smart[47] refer to the same problem:

> Pubescence, the period surrounding the peak of velocity in physical growth, is only the beginning of a long critical period in personality growth. Here the problem is posed, "Who am I?" All of adolescence involves finding the answer . . . The sense of identity is built throughout life, but it too has a special time of growth. The personality with which the child begins pubescence is the product of all his part interactions with the world.

Physical and psychological growth have been shown to be related in many studies. In addition to the Jones' studies of early- and late-maturers, another study[48]

---

[45]Jersild, In Search of Self, op. cit., p. 3.

[46]E. Ambrose and A. Miel, Children's Social Learning (Washington: ASCD-NEA, 1958), p. 21.

[47]Smart and Smart, op. cit., p. 437.

[48]Ibid., p. 470.

yielded a picture of early-maturers as self-confident, independent and socially capable while late-maturers often had negative concepts of themselves, feelings of inadequacy, rejection and dependency, and felt rebellious toward their parents. This same study, in considering the question of effects of the timing of maturity on girls' personalities, found results similar to the Jones study[49] on boys. "Early-maturing 17-year-old girls had more favorable concepts than did late-maturing girls, even though they must have been bigger than their classmates during adolescence."[50]

A different approach was from the viewpoint of peers.[51] Girls in grades six through nine were tested to determine the effect of physical maturity on prestige. The sixth-grade girls received high prestige ratings more frequently when they were in the same developmental phase as their classmates; that is, they had not reached menarche. However, in grades seven through nine, physical acceleration was an advantage in receiving prestige ratings.

---

[49]Jones, op. cit., p.

[50]Smart and Smart, op. cit., p. 470.

[51]M. S. Faust, "Developmental Maturity as a Detriment in Prestige of Adolescent Girls," Child Development, Vol. 31 (1960), 182-183.

Educational Implications

The middle school, ". . . as a psychologist might view it, has paradoxical distinctions: First, its clientele is composed of so bewildering an assortment of young people at crucial turning point in their lives as to defy descriptions."[52] In the second place, schools of education and public school systems are at fault since ". . . there is a tendency to make believe that there is no such institution: schools are either considered elementary or secondary . . . "[53]

It is abundantly clear that, at least physically, students are entering the early phases of adulthood at earlier ages. The onset of pubescence creates many internal and external pressures on students over which they have little control. These pressures create emotional and social anxiety and tensions in students that are reflected in their responses to the curriculum in a variety of ways. These results are often intensified by changing cultural expectations which will be examined in a later chapter.

The students at these age levels, ten- to fourteen-year-old, are being buffeted by internal and external forces. They are changing physically and they are facing

---

[52]W. W. Wattenberg, "The Junior High School--A Psychologist's View," The Bulletin of N.S.S.P., Vol. 49: 300 (April, 1965), 34.

[53]Ibid.

societal pressures that are confusing and frustrating. School programs should be formulated with the goals of enabling the physically emerging boy and girl to better understand and accommodate to their growth changes.

Intellectual Growth

> Research on the intellectual development of the child highlights the fact that at each stage of development the child has a characteristic way of viewing the world and explaining it to himself.[54]

Bruner's statement is influenced by the research of Piaget and others who suggest that ". . . roughly speaking, one may distinguish three stages in the intellectual development of the child."[55] Piaget's first stage ends around the fifth or sixth year. His second stage of development, called the stage of concrete operations, usually extends through the upper elementary years. The third stage of intellectual development is the formal operations stage and it usually comes into existence during the middle-school years.[56]

It would be possible and profitable to concentrate on the general characteristics of the intellectual development of middle-school students, as identified by Piaget; however to do so without considering the impact of

---

[54] J. S. Bruner, The Process of Education (New York: Random House, 1960), p. 33.

[55] Ibid., p. 34.

[56] Ibid., pp. 34-54.

group influence on the intellectual growth would be short-sighted.

> It is the place of groups in which . . . the person becomes an individual by virtue of his memberships, where, in fact, we learn from others-not from ourselves-that we are worthy and valued and permitted to make choices in keeping with our deepest personal needs and desires.[57]

In this section the writer intends first to focus on the general characteristics of intellectual development, second to concentrate on Piaget's stage of development identified as formal operations, and finally, to examine the impact of certain group influences on intellectual growth.

"Psychological growth is just as dramatic as physical growth at the beginning of adolescence."[58] Because of this dramatic change between the ages of 12 and 14 years, the adolescent is as different from the school-age child (refers to elementary child) as the school-age child is different from the preschool child.[59]

If the middle-school child is unique in intellectual development as compared to younger and/or older children, a school program should be designed which will accommodate the type of intellectual operations associated with the

---

[57]Simpson, op. cit., p. 322.

[58]Smart and Smart, op. cit., p. 475.

[59]Ibid.

age range. This section will explore the range of these intellectual operations within age-levels.

General Characteristics

The intelligence age-curve.--Longitudinal studies by Bayley[60] have yielded results which are somewhat at odds with the generally accepted form of the age-curve intelligence and these results bear discussion.

According to Bayley, older studies which showed the curve of intelligence increasing until the early twenties followed by a slow decline throughout the adult years have been refuted by new studies which show that ". . . at least some intellectual abilities may continue to increase slowly to 50 years of age or older."[61] Bayley's theories on the nature of intellectual development are based on the assumption ". . . that the human organism . . . undergoes continual processes of change throughout its life span. These changes are more rapid at some periods of life than at others . . . "[62] While everyone agrees that intelligence grows throughout infancy and childhood, Bayley's studies indicate, with support from other studies,[63] that the intelligence age-curve shows

---

[60] N. Bayley, "Mental Growth and Development," in The Adolescent, ed. by J. Seidman (New York: Holt, Rinehart and Winston, 1960), pp. 184-188.

[61] Ibid., p. 185.

[62] Ibid.

[63] Ibid., p. 187.

acceleration during the middle-school years. It is interesting to note that the intelligence age-curve acceleration is not directly related to the adolescent spurt of physical growth in either boys or girls.

Bayley's general conclusion regarding causes points to general environment.

> It seems rather obvious that the general environment in which children are now growing up is richer: there is more knowledge available and better communication of it; travel is easier, and more children can, with less trouble, have varied experiences. Possibly also our knowledge of child training and mental hygiene are influencing parental practices in a healthful way.[64]

Equality of intellectual capacity.--Environment influences but nature is basically to blame for the disparity of intellectual capacity among the children in our schools; this is an assumption on which most American educational programs are based. Working from this assumption the schools attempt to build programs that can develop individual capacities. Ability grouping, tracking or streaming, and various other practices are used by schools to accommodate the natural superiority or inferiority of individuals and groups. This basic assumption of inequality is questioned by Boyer and Walsh as they contend that "Studies of innate intelligence, then, have not produced conclusive evidence to justify the claim for an innate difference in individual

---

[64] Ibid., p. 198.

intellectual capacity."[65] While they grant that there is no evidence that all children are born equally endowed, they do propose that teaching strategies should be based ". . . on the most generous and promising assumptions about human nature rather than the most niggardly and pessimistic."[66] To be successful, teachers must assume children can learn anything.

Guilford[67] takes a related viewpoint when he contends that the best position for educators to take is that possibly every intellectual factor in almost all people can be developed at least to some extent of learning. Guilford also makes a plea for school programs that give more attention to the divergent-thinking categories of abilities in all children. It is in these categories "that the more conspicuously creative abilities appear to be concentrated."[68]

Redl[69] feels that teachers should view students as interacting individuals and never look at groups as entities. His opposition is to the current tendencies to

---

[65]W. H. Boyer and P. Walsh, "Are Children Born Unequal?" Saturday Review, October 19, 1968, p. 63.

[66]Ibid., p. 78.

[67]J. P. Guilford, "Three Faces of Intellect," in The Adolescent, ed. by J. Seidman (New York: Holt, Rinehart and Winston, 1960), pp. 198-217.

[68]Ibid., p. 216.

[69]F. Redl, When We Deal With Children (New York: The Free Press, 1967), pp. 467-468.

gather children together according to some accidental factor of convenience, be it chronological age or IQ. He feels that the effectuality of any group will be a function of the kind of thinking and the degree of sensitivity which go into its formation. Redl would not be concerned with the intellectual inequalities of the students, only the inequality of the supportive life experiences (as in the slums) the student brings to school and the lack of supportive experiences the child had in school.

Education has a new crop of critics and ". . . their common defense of children and adolescents and their fundamental attacks on established practices has given them a place apart from the conventional critics."[70] These critics--Friedenberg, Goodman, Holt, and others--share with Dewey a faith in the healthy capabilities of children. They are concerned more with the developmental processes than with the formalities of education. Their enemies, and the enemies of children, as they see it, are society and the educational system. They view school as a place where children are taught that they can't learn and are encouraged to act stupidly. It is their common view that children aren't born stupid but are so alienated from life by school and so exploited that their natural

---

[70]P. Schrag, "Education's Romantic Critics," Saturday Review, February 18, 1968, p. 80.

instincts of curiosity and self-realization are destroyed.[71] Holt[72] is very explicit when he criticizes the schools by saying:

> Nobody starts out stupid. You have only to watch babies and infants, and think seriously about what all of them learn and do, to see that, except for the most grossly retarded, they show a style of life, and a desire and ability to learn that in an older person we might well call genius. Hardly an adult in a thousand, or ten thousand, could in any three years of his life, grow as much in his understanding of the world around him, as every infant learns and grows in his first three years.

Less concern about the inequalities of mental endowment and more concern about providing life and school experiences that recapture that "desire and ability to learn" that is evidenced in the three-year-old, would be desirable on the part of all educators.

Intellectual characteristics of 10- to 14-year-olds.--According to Bruner[73] a list describing intellectual growth should include the following aspects:

1. Growth is characterized by increasing independence of response from the immediate nature of the stimulus.
2. Growth depends upon internalizing events into a storage system that corresponds to the environment.

---

[71] Ibid., pp. 80-82, 98-99.

[72] J. Holt, How Children Fail (New York: Pitman Publishing Co., 1964), p. 167.

[73] Bruner, Toward a Theory of Instruction, pp. 5-6.

3. Intellectual growth involves an increasing capacity to say to oneself and others, by means of words or symbols, what one has done or will do.
4. Intellectual development depends upon a systematic and contingent interaction between a tutor and a learner.
5. Teaching is vastly facilitated by the medium of language, which ends by being not only the medium for exchange, but the instrument the learner can use himself in bringing order into the environment.
6. Intellectual development is marked by increasing capacity to deal with several alternatives simultaneously.

It is obvious that Bruner's "aspects of intellectual growth" have significant implications for the education of middle-school students. Since Bruner's work is based in part on the developmental studies of Jean Piaget, it is appropriate that Piaget's description of the student as he passes through the various developmental stages be examined, with special emphasis on the later stages.

The Influence of Piaget

Piaget's characteristics of thinking[74].--At the end of infancy the child has completed two major feats, the control of his movements in space and the idea of object constancy. The child is able to realize that an object still exists even though he can no longer see it. His sensorimotor intelligence has begun to link successive perceptions and movements with brief anticipations and memories. ". . . Sensorimotor intelligence acts like a slow-motion film, in which all pictures are seen in succession but without fusion, and so without the continuous vision necessary for understanding the whole."[75]

At the end of this period to about the age of seven thinking takes on certain characteristics which are more sophisticated than what has gone before. During this preschool period (in Piaget's term, the stage of preoperational thought) the child becomes less egocentric, as his thought processes become more flexible, more controlled and less dominated by his perceptions and his wishes. However, in general, the preoperational child is involved primarily with his own goals. He finds it very difficult to consider how any situation looks to another person. "What is principally lacking at this stage of

---

[74]J. Piaget, The Psychology of Intelligence (London: Routledge and Kegan Paul, 1950), p. 119.

[75]Ibid., pp. 120-121.

development is what the Geneva school has called the concept of reversibility."[76] This deficiency prevents the preoperational child from grasping the idea that objects, once changed in shape, can be returned to the original state. This lack of understanding inhibits the child's understanding of certain mathematical ideas. "It goes without saying that teachers are severely limited in transmitting concepts to a child at this stage, even in a highly intuitive manner."[77]

Piaget refers to the stage of cognition which lasts from about 7 to 11 as the period of concrete operations.

> The central problem of the school age [ages 7 to 11], the development of the sense of industry, requires the child to solve intellectual problems and to develop intellectual skills, along with the motor coordinations and social skills which also contribute to his adequacy.[78]

The outstanding intellectual developments during this period are the increased freedom and control in thinking and the increased understanding of the relationship of symbols to events or situations.[79]

Children in the concrete operations' stage develop the ability to classify objects by reflecting upon the various qualities of the objects. The ability varies with

---

[76]Bruner, The Process of Education, pp. 34-35.

[77]Ibid., p. 35.

[78]Smart and Smart, op. cit., p. 343.

[79]Piaget, op. cit., p. 139.

age changes. Younger children use personal experience and perception more and abstract ideas less than older children.

Classifying on the basis of color drops sharply between kindergarten and first grade and remains fairly constant after second grade. Situation as a basis for classifying, represents personal experience, and shows a steady decline after grade four. "Classification in terms of an abstract occurs seldom in the kindergarten and frequently in the higher grades."[80]

As the child approaches the upper limits of concrete operations stage he develops cognitive ability to a high degree. Bruner[81] summarizes the stage of concrete operations when he says that:

> Concrete operations, though they are guided by the logic of classes and the logic of relations, are means for structuring only immediately present reality. The child is able to give structure to the things he encounters, but he is not yet readily able to deal with possibilities not directly before him or not already experienced. This is not to say that children operating concretely are not able to anticipate things that are not present. Rather, it is to say that they do not command the operations for conjuring up systematically the full range of alternative possibilities that could exist at any given time. They cannot go systematically beyond the information given them to a description of what else might occur.

---

[80] Smart and Smart, op. cit., p. 347.

[81] Bruner, The Process of Education (New York: Random House, 1960), p. 37.

According to Piaget, the third and final stage is that of formal operations. This follows concrete operations and normally comes into existence during the middle-school years. Bruner[82] describes formal operations as follows:

> Now the child's intellectual activity seems based upon an ability to operate on hypothetical propositions rather than being constrained to what he has experienced or what is before him. The child can now think of variables and even deduce potential relationships that can later be verified by experiment or observation. Intellectual operations now appear to be predicated upon the same kinds of logical operations that are the stock in trade of the logician, the scientist, or the abstract thinker.

By contrast with the child in the stage of concrete operations, the early adolescent can make use of more information, withholding his final conclusions while evaluating new information. The middle-school child can think without using concrete objects or events. He constructs and uses systems of thought by which he searches for the greatest possible number of relationships and combinations of ideas. Since formal reasoning means accepting the conditions given and abiding by the conditions while solving the problem, the early adolescent discovers that formal thought requires an unusually high standard of control.

---

[82] Ibid.

These methods of reasoning most assuredly have implications for curriculum development. Conceptually-based, inquiry-oriented social science programs find theoretical support in Piaget's work. Science programs for 10- to 14-year-olds which provide opportunities for students to manipulate laboratory equipment, to accumulate information and derive conclusions from the data are combinations of experiences that accommodate the middle-school student's varying stages of intellectual development.

Individuality in formal thought.--"Individuals vary in the way they think formally."[83] Individuals may achieve abstract concepts in one area and not in another. It is apparent that logical thinking depends upon the individual's opportunities for developing the ability and not upon some inherent capacity to think in this way.

Even though a child can think logically, there is no assurance that he will do so. Piaget's ideas on roles can be used to explain this phenomenon. An adolescent's interest and effort toward developing abstract concepts probably depends upon how much the adolescent feels he needs these ways of thinking. "The college-bound youngster, especially if he is headed for science and mathematics, will probably seek and find more abstract

---

[83]Smart and Smart, op. cit., p. 493.

concepts than the one who plans to tend store or keep house."[84]

Frank and Frank[85] contend that students of middle-school age should be provided with a "thinking-readiness" program, much as kindergarteners are provided a reading-readiness program. "This program aims at giving boys and girls competence in finding and trusting their capacity to think and to feel that their thinking is important . . . "[86] They feel that it is vital that this experience come at a time (early adolescence) when they are becoming capable of formulating concepts and using abstractions. Bruner[87] speaks to the same question when he says that extrinsic problem-solving interferes with intrinsic problem-solving. He contends that children spend far too much time figuring out what the teacher wants rather than solving genuine problems. Bruner feels that teachers must stimulate problem solving ". . . by providing . . . children with materials and lessons that permit legitimate problem solving and permit the teacher to recognize it."[88]

---

[84] Ibid., p. 480.

[85] M. Frank and L. Frank, Your Adolescent at Home and in School (New York: The Viking Press, 1956), pp. 257-258.

[86] Ibid.

[87] Bruner, Toward a Theory of Instruction, p. 158.

[88] Ibid.

Educators should not blind themselves to the fact that there are vast differences between and within individuals. Coleman has noted marked differences between suburban and rural youth,[89] and the different rates at which boys and girls mature was described in an earlier chapter of this paper. Since an individual grows according to his own timetable, which varies from month to month and is not even the same for all aspects of his development, a teacher quite literally faces a different group of children each time he meets a class. The teacher who fails to account for the student's individuality as he plans his teaching approaches is greatly increasing his chances of frustration and failure.

Groups Effects

> The factors that influence growth are to a very large extent genetically determined, whereas the factors that influence learning are chiefly determined by events in the individuals living environment. . . . Experience, we are told, is the great teacher. This means that the events the developing individual lives through--in his home, in his geographical environment, in school, and in his various social environments--will determine what he learns and therefore to a large extent what kind of person he becomes.[90]

---

[89] J. S. Coleman, "Social Change: Impact on the Adolescent," Bulletin of the NASSP, Vol. 3 (October, 1966), 8.

[90] R. M. Gagné, The Conditions of Learning (New York: Holt, Rinehart and Winston, 1965), pp. 4-5.

If we can accept the premise that the situations in which developing children are placed are going to have great effects on them, we must examine very carefully the conditions of learning that surround the many groups we form for instructional purposes in our schools. While our concern for individuals may be paramount, we must acknowledge that the group influence on the individual is supreme.

In this review of the literature regarding group effects, there are two aspects of grouping which will be explored: the effects of homogeneous, or ability grouping, and the effects of racial isolation.

Ability grouping.--

> The results of ability grouping seem to depend less upon the fact of grouping itself than upon the philosophy behind the grouping, the accuracy with which grouping is made for the purposes intended, the differentiates in content, method, adn speed, and the technique of the teacher, as well as upon more general environmental influences. Experimental studies have in general been too piecemeal to afford a true evaluation of results.[91]

Seagoe also pointed out that the experimental literature had yielded no conclusions regarding ability grouping that were universally accepted. She did, however, point up certain principles. A child should be a member of a group possessing sociological characteristics,

---

[91]M. V. Seagoe, A Teacher's Guide to the Learning Process (Dubuque: William C. Brown Co., 1956), p. 304.

i.e., a functioning and interacting group. In such a group pupils make greater gains in traditional subject matter.[92]

Published research between 1936 and the present time, while generally inconclusive, certainly does not give solid support to the advocates of ability grouping. Breidenstine[93] found children in ability groups and undifferentiated groups in grades two to nine made similar gains in academic achievement. Hartill[94] reported that ability grouping produced no systematic superiority in basic skills.

In the field of attitudes toward classroom grouping, the evidence is confused. Shannon[95] found that children grouped according to ability showed a greater degree of attention than those in undifferentiated groups, though the factor of teaching quality was not controlled. The Luchins[96] interviewed children in one

---

[92] Ibid., pp. 305-315.

[93] A. G. Breidenstine, "The Education of Pupils in Differentiated and Undifferentiated Groups," Journal of Experimental Education, Vol. 5 (September, 1936), 91-135.

[94] R. M. Hartill, "Homogeneous Grouping as a Policy in the Elementary Schools of New York City," Contributions to Education #690, Teachers College, Columbia, 1937.

[95] J. R. Shannon, "Homogeneous Grouping and Pupil Attention in Junior High Schools," Teachers College Journal, Vol. 12 (1941), 49-57.

[96] A. S. Luchins and E. H. Luchins, "Children's Attitudes Toward Homogeneous Grouping," Pedagogical Seminary, Vol, 72 (1948), 13-19.

community and found that they were quite status-oriented toward ability grouping, preferring to be in higher groups, perhaps reflecting a school atmosphere of academic competitiveness.

Another type of research is concerned with grouping within the classroom. Hoover[97] found gains in biology achievement from differentiating groups within the class on the basis of previous grades, reading achievement, and intelligence. Barbe and Waterhouse[98] found a similar result in English. In neither case was there adequate control, however.

The Borg[99] field study, a very extensive project supported by the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education and Welfare, investigated, in part, the effect of ability grouping on slow, average, and superior junior high students. The investigator reported that ability grouping was slightly more advantageous for superior pupils, offered no advantage to average pupils and was inferior to heterogeneous grouping for slow pupils. This

---

[97]K. Hoover, "An Experiment on Grouping Within the Classroom," School Review, Vol. 48 (May, 1940), 355-362.

[98]W. B. Barbe and T. S. Waterhouse, "An Experimental Program in Reading," Elementary English, Vol. 33 (1956), 102-104.

[99]W. B. Borg, "Ability Grouping in the Public Schools" (Madison, Wisconsin: Demlar Education Research Services, Inc., 1966), p. 92.

study is quite illustrative of most of the research on ability grouping. It demonstrates very clearly that students, who themselves are not particularly motivated to learn, get no motivation by being placed with other non-motivated students. Conversely it demonstrates that highly-motivated students have a positive effect on others in their group.

If schools are concerned with inspiring students to improve their achievement, then the schools must have positive expectations regarding the students' ability to achieve. The influence of teachers' expectations on student's achievement was clearly demonstrated by the Rosenthal[100] study. If we can assume that IQ scores are indications of what students have learned, teachers' expectations are an important factor in producing learning. Placing students in "slow" classes, surrounded by other students similarly labeled, appears to be a sure way of producing inferior achievement.

Racial isolation.--The 1954 Supreme Court decision maintained that "separate but equal" schools for Negro and white children were inherently unequal and contrary to the basic purpose of education. It said that:

> Today, education is perhaps the most important function of state and local governments. . . . It is the very foundation of good citizenship.

---

[100] R. Rosenthal and L. Jacobson, "Teachers' Expectancies: Determinants of Pupils I.Q. Gains," Psychological Reports, Vol. 19 (1966), 115-118.

> Today it is the principal instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment.[101]

By calling upon the schools to assist in the assimilation of Negro children into contemporary society, the Supreme Court took a direct stand in opposition to school grouping plans that segregated students on the basis of race, and took an indirect stand in opposition to "geographical" segregation which is in many cases identical to racial segregation.

> Despite the decade and a half since 1954, when segregation was outlawed, we are far from the ideal of total integration. In fact, our schools are growing more racially segregated, not less. There are more segregated schools in the United States today [1968] than there were in 1954 at the time of the Supreme Court decision.[102]

The ability of the Negro student: Equality of intellectual capacity was discussed in an earlier section of this chapter and at this time an effort will be made to illustrate the effects of racial isolation upon--not the capacity--the scholastic achievement of students.

---

[101] Brown vs. Board of Education, 347 U.S. 483 (1954), as quoted by Kenneth B. Clark, "Educational Stimulation of Racially Disadvantaged Children," in Education in Depressed Areas, ed. by A. H. Passow (New York: Teachers College, Columbia University, 1963), p. 142.

[102] T. Pettigrew, "The Case for School Integration," in Decentralization and Racial Integration, ed. by Carroll F. Johnson and Michael D. Usdan (New York: Teachers College, Columbia, 1968), p. 83.

There have been many studies which strongly suggest that there are no biologically determined differences in the innate ability of Negroes and whites. A study by Pettigrew,[103] a relatively recent study, supports this contention. At the same time, any number of studies have reported that Negro students show consistently lower scores as a group than do whites on standardized ability and achievement examinations. An example is the study made by Educational Testing Service for the Atlanta, Georgia, city schools in 1955 and 1956. It showed that in reading Negro students on the average ranged from one grade level behind white students at the third grade to four grades behind at the twelfth grade. In general achievement, 40 to 60 per cent of the white pupils at all grade levels were at the 50th percentile in the national sample, but only two to ten per cent of Negro pupils were at this percentile. This study notes that such conditions are not unique to Atlanta schools.[104]

Since studies of racial differences have failed to demonstrate any inherent deficiency in the learning

---

[103] T. F. Pettigrew, Social-Psychological Considerations of Racially Balanced Schools, A Report of the Advisory Committee on Racial Imbalance and Education (Boston, Mass.: St. Bd. of Educ., April, 1965), pp. 87-108.

[104] Learning and Teaching in Atlanta Public Schools (Princeton, N.J.: Educational Testing Service, 1956), p. 27.

potential of any group, observed differences in achievement must be the result of other factors.[105]

Factors creating achievement differences: In its recent study[106] the U. S. Commission on Civil Rights found that Negro students are more likely to be in overcrowded schools than white students. A report prepared by the Office of Education, Coleman et al.,[107] shows that Negro students are less likely to attend schools which offer advanced courses in subjects such as science and language and which have science laboratories. The Coleman Report also shows[108] that the average Negro pupil has fewer classmates whose mothers graduated from high school; his classmates more frequently are members of large rather than small families; they are less often enrolled in college preparatory curricula; and they have more often the other characteristics of low income families, such as no father in the home. The Coleman Report concludes:

> Finally, it appears that a pupil's achievement is strongly related to the educational

---

[105] G. Grambs, "A Guide to School Integration," Public Affairs Pamphlet No. 255.

[106] U. S. Commission on Civil Rights, Racial Isolation in the Public Schools, U. S. Government Printing Office, 1967, p. 92.

[107] Coleman, et al., Equality of Educational Opportunity, U. S. Office of Education Survey, Government Printing Office, 1966, p. 73.

[108] Ibid., pp. 18-20.

> backgrounds and aspirations of the other students in the school. . . . Analysis indicates . . . that children from a given family background, when put into schools of different social composition, will achieve at quite different levels.[109]

John H. Fischer, President of Teachers College at Columbia University, has written:

> [A] school enrolling largely Negro students is almost universally considered of lower status and less desirable than one attended wholly or mainly by white students. Regardless of the quality of the building, the competence of the staff, or the size of the classes, a school composed of three-fourths Negro children and one-fourth white children is viewed by members of both races . . . as inferior to one in which the proportions are reversed.[110]

The effects of large-scale desegregation and integration upon the academic achievement of both Negro and white students are as yet undetermined. This is so because we have had very little desegregation. One study[111] indicated an improvement in instructional programs after desegregation. Another concluded that desegregation had led to significant increases in Negro achievement and has not adversely affected the achievement of white students.[112] More than token desegregation is going to be necessary before the full effects will be known.

---

[109] Ibid., p. 22.

[110] J. H. Fischer, "Race and Reconciliation: The Role of the School," Daedalus, Vol. 26 (Winter, 1966), 95.

[111] H. Wey, "Desegregation, It Works," Phi Delta Kappan, Vol. 25, No. 9 (May, 1964), 382-387.

[112] M. Weinberg, Research on School Desegregation (Chicago: Integrated Education Associate, 1965), p. 62.

Educational Implications

It is apparent from the work of Piaget and his colleagues that intellectual ". . . development occurs in a constantly expanding sequence with present intellectual development being dependent upon previous development."[113] If this conclusion is accepted, educators should be prepared to provide learning experiences which help the child pass progressively from concrete thinking to the utilization of more conceptually adequate modes of thought. For middle school students it may well be true that the concepts which can be taught do not follow a traditional subject matter format. This calls for a careful analysis of content areas in an effort to discern the concepts which are involved.

None of the emphasis on sequential intellectual development obviates the need to be concerned about the composition of the groups which are formed for instructional purposes. School organizations which call for some form of homogeneous grouping on the basis of academic attainment have no justification on a social or educational basis. School groupings which ignore the deleterious effects of racial isolation cannot be condoned. If significantly large segments of our schools'

---

[113]D. H. Eichhorn, The Middle School (New York: Center for Applied Research in Education, Inc., 1966), p. 38.

population are being handicapped by racial imbalances, the removal of this barrier should have high priority.

Cultural Factors

> Effective schooling for any age or grade level must take into account the learner and how he learns, the contemporary social and cultural milieu, and the way man organizes and adds to the knowledge he has accumulated through the ages.[114]

The earlier sections present a picture of the young people of today who are reaching physical, social, and intellectual maturity at a younger chronological age than children of earlier generations. That both boys and girls achieve puberty at an earlier age is a biological fact that can be verified. The question is whether the earlier social and intellectual maturation is a direct function of this physiological acceleration. Bauer[115] presents a rather convincing argument of adolescence being a culturally-induced phenomenon in Western societies. Eichhorn[116] supports this view when he says:

---

[114] G. F. Vars, "New Knowledge of the Learner and His Cultural Milieu: Implications for Schooling in the Middle Years," Paper presented at the 11th Annual Fall Conference of the College of Education, University of Toledo, Toledo, Ohio, November 11, 1967, p. 1.

[115] F. C. Bauer, "Fact and Folklore About Adolescents," Bulletin of the National Association of Secondary School Principals, Vol. 49, No. 299 (March, 1965), 174.

[116] D. H. Eichhorn, "New Knowledge of 10 Through 13 Year-Olds," Paper presented at the Conference on "The Middle School Idea," Nov. 11, 1967, at the College of Education, University of Toledo, p. 1.

> Due to cultural factors physical maturation is occurring in individuals at an earlier chronological age than formerly; this trend is accompanied by similar trends in social interests. It is characteristic of American education to develop organizational patterns commensurate with the nature of its students; the current status of human growth and development suggests there is a definite need for re-examining the transitional school organization in light of changing physical and social traits of students.

No matter the cause, young people today are larger and physically more mature than in past generations. Perhaps because of their size and physical maturity they are expected to have the social and intellectual interests of older persons.

> When young people in response to these expectations do behave in a more sophisticated manner, our self-fulfilling prophecy is indeed fulfilled. Whatever the cause, it does appear that precocity is a characteristic of many transescents [term used by Eichhorn to denote age between childhood and adolescence] today, a fact that must be considered in designing a curriculum for this age group.[117]

In this section some major social institutions will be examined in an effort to determine their influence on American education.

The Family in An Agrarian Society

In the early days of our country ". . . the family occupied a central place in social structure and controlled most of the educational, religious and economic

---

[117] Vars, op. cit., p. 2.

functions in the community."[118] The father was considered the head of the household by all its members. As husband and father he made all the important decisions. As is traditional in most of the world's cultures, the father was the boss.

Children have always been important to families. "Traditionally, societies have depended upon reproducing their orderly forms of family life by rearing children within families, who will regard that form of family life within which they were reared as normal, natural, and desirable."[119] Children were also considered assets to the labor supply of an agrarian family and ". . . families were, therefore, unwilling to give them up to public education when the latter increased its demands in mid-nineteenth century."[120] The twelve-child families of the last century are rare today. "The birth rate in the Western world began falling about a century ago, reached its

---

[118] K. Yamamoto, "America in Which Children of the Middle Years Will Live: An Education Perspective," A paper presented at the 1967 fall conference on "The Middle School Idea" at the College of Education, University of Toledo, Ohio, November 11, 1967, p. 15.

[119] M. Mead, "The Contemporary American Family As An Anthropologist Sees It," in The Adolescent, ed. by J. M. Seidman (New York: Holt, Rinehart and Winston, Inc., 1960), p. 364.

[120] Yamamoto, op. cit., p. 16.

low point during the Great Depression of the 1930's and has risen somewhat from that figure."[121]

As our illiterate agrarian society was transformed into a literate industrialized society, children became an expensive burden rather than an economic asset.

The role of the woman in the family has changed drastically during the past century. A hundred years ago the husband was dominant. Law and custom gave the husband legal control over a wife's property, earnings, and even her body. The woman stayed at home, bore children, raised them, kept the house in order, and provided a large part of the formal and informal education of the family's offspring.

The present American family.--"The present American family is in the midst of sweeping changes."[122] The family is smaller than a century ago, male authority has declined, and it is not uncommon for both husband and wife to be gainfully employed outside the home.

Despite fears to the contrary, there seems to be no real evidence that the working mother damages her children by taking a job outside the home. The report of one very careful study, which matched 500 delinquents with 500 nondelinquents, who were all paired for social class, age, ethnic-racial derivation, and intelligence, indicated no

---

[121]P. B. Horton and C. L. Hunt, Sociology (New York: McGraw-Hill, 1964), p. 248.

[122]Ibid., p. 257.

difference between the delinquency rates of the children of working and nonworking mothers.[123]

In our modern families, children have attained importance as agents of family prestige and mobility.[124] They have assumed a central position in the family and the term "child-centered home" is a reality in many ways. American parents seem to have become increasingly more permissive, psychology-conscious, and judged as successful or unsuccessful parents on the basis of their children's performance.[125]

However, being a child today is not easy. The child of today is under considerable stress, being required to serve many masters at one and the same time.[126] The child of today has to both get along with others and try to get ahead of others. He is supposed to help compensate for all the frustration, anxiety, and humiliation which his father suffers at work and which his mother experiences in her confusion of roles as an American female.[127]

---

[123] Ibid., p. 253.

[124] R. C. Corwin, A Sociology of Education (New York: Appleton-Century Crofts, 1965), p. 74.

[125] S. T. Kimball, "Cultural Influences Shaping the Role of the Child," National Elementary Principal, Vol. 40 (September, 1960), 28-32.

[126] K. Yamamoto, "Children Under Pressure," a paper read at the 22nd annual conference of the ASCD, Dallas, Texas, March, 1967.

[127] Yamamoto, "America in Which Children of the Middle Years Will Live," p. 16.

Children have other problems with their parents. "Some of their conflicts are intensified by the emotional concentration of the nuclear family, rapid social changes and the impact of the mass media and easy travel."[128] Many children have trouble communicating with their parents. They find certain topics, such as sex, misbehavior, and school failure hard to discuss.[129] In a time when parents and their children have highly developed their abilities to verbalize, we see whole families disorganized and torn by hostility because of the lack of communication. Everyone in the family is talking but no one is listening.

The agency charged with the responsibility of resolving these social issues is the school. "The design of a school program . . . represents some conception of the goals that ought to be pursued by individuals and by society as a whole."[130] The school is seen as an institution in which the young are prepared for the radical transition from the private world of home and family to the public world. During this transition the school is charged with the responsibility of taking children who come from extremely diverse family backgrounds and

---

[128] Smart and Smart, op. cit., p. 510.

[129] Ibid.

[130] S. T. Kimball and J. E. McClellan, Education and the New America (New York: Random House, 1962), p. 239.

molding them into first a common school organization and then into all the other social organizations.

Religion

During the earliest days of modern America the Puritans established their domination over all of society, including education, and the schools taught God's words as interpreted by the sect. Politics, education and religion were permeated by Puritan values.[131]

This didn't last long. "The first amendment to the Constitution . . . sought to preserve the right of the people to choose between alternative religious views."[132]

In the recent decades there has been a peculiar separation between religion and religiosity. Records indicate that two-thirds of Americans are registered members of some church while only one in six was so registered in 1850.[133] These figures suggest that religion is institutionally as strong as ever. This contrasts sharply with the Supreme Court's ruling on public

---

[131]M. L. Borrowman, "Traditional Values and the Shaping of American Education," in Social Forces Influencing American Education, 60th Yearbook of the NSSE, pp. 1, 11, ed. by Nelson B. Henry (Chicago: U. of Chicago Press, 1961), pp. 144-170.

[132]W. Madden, "Education for Religious Quality in Experience," in Intellectual Foundations of American Education, ed. by H. H. Carter (New York: Pitman, 1965), p. 162.

[133]M. Gendell, A Sociological Almanac for the US (New York: Scribners, 1964), p. 18.

school prayer and with decreasing control of the government over matters which society has labeled as moral.

What is the role of the public school teacher vis-a-vis the religious of today and tomorrow?

> At every level and in every subject area, from the first grade through the university, we need teachers who are deeply committed and ultimately concerned--teachers who are troubled by the basic human questions and who have the courage to find their own direction.[134]

This would not be an easy task but the reward would be great.

> A serious teacher must first be a serious human being. A teacher who has mastered some technical discipline is not, by virtue of that alone, worthy of being a teacher. A teacher who has nothing to communicate as a person, seems . . . to have failed utterly in the most important aspects of his job. . . . [A] school that could transform the indifference, the fearfulness, and the mental flabbiness--which pass for objectivity--into engagement, concern, and commitment, would be a school that does more to advance the cause of religion than any I can think of today.[135]

The State

Many decisions in education are made on "the assumption that the public school's primary responsibility is to train citizens who are useful to their country . . . "[136] Schools are increasingly regarded as the principal agents

---

[134] M. Fox, "Religion and the Public Schools--A Philosopher's Analysis," Theory Into Practice, Vol. 4 (February, 1965), 42.

[135] Ibid., p. 43.

[136] R. G. Corwin, A Sociology of Education (New York: Appleton-Century-Crofts, 1965), p. 85.

of change for implementing public policies derived through political processes.[137] If we judge the future by historical trends, this phenomenon will persist.

Several questions face the schools at this point. "The first is whether any single social institution can perform as numerous functions as those now required of schools."[138] The schools are expected to conserve the social order, transmit the cultural heritage, formulate strategies for social change, and to convince all the public that these are good ideas and that the schools are performing well.[139] It is truly debatable whether education based upon strictly national goals is at all defensible in view of the world-wide values necessary to build a viable and just international order.[140] The forces that are now acting upon the schools will undoubtedly create significant changes.

> The changes in our intellectual institutions that will work themsevles out over the next [three decades] . . . are not merely modifications within existing organizations . . . , but more fundamental developments that will transform old

---

[137] J. S. Gow, "Economic, Social and Political Forces," in The Changing American School, 65th Yearbook of the N.S.S.E, Part II, ed. by J. I. Goodlad (Chicago: U. of Chicago Press, 1966), pp. 159-199.

[138] Yamamoto, "America in Which Children of Middle School Years Will Live," p. 20.

[139] Ibid.

[140] H. Taylor, "National Goals and International Goals," Phi Delta Kappan, Vol. 47 (December, 1965), 175-179.

> institutional forms. . . . As a result, a variety of new organizational forms linked more closely to community needs, to work, and to living currents of industrial-political-intellectual life than to the traditional community of scholars will be developed within, outside, and beside the campus.[141]

Summary

Schools are supposed to be capable of solving any social issues and some of the current issues are being debated and even fought in today's schools. Schools are supposed to take today's youth and mold them into tomorrow's leaders. Today's youth are examining the mold and finding it lacking. Teachers are expected to inculcate a degree of commitment into American youth which will advance the objectives of religion without advocating specific religious tenets. Today's schools are also expected to perform their traditional functions while preparing students to live and be productive in a future which might appropriately call for a dissolution of the institutions and the traditions the school is sworn to support.

---

[141] H. Orlans, "Educational and Scientific Institutions," Daedalus, Vol. 96 (Summer, 1967), 830.

CHAPTER III

INTERESTS OF MIDDLE SCHOOL STUDENTS

The early adolescent boy or girl has many interests. Some of them are continuations of the pursuits of childhool but many are new. In a 1962 study[1] young adolescents in grades 7 and 8 reported, aside from television and radio, such spontaneous activities as hobbies, reading, games, caring for animals, cooking, doing chores at home, riding bicycles, and gardening, plus eating and sleeping. These categories appear to be rather mundane, general classifications that hardly would be helpful to a teacher seeking a student's outlook on life as a clue to that which the child and teacher might believe to be significant about and for his education.

> In an era when many people go through the motions of living with little evident convictions as to its meaning, it seems appropriate to teach children to examine the activities they select for themselves. Even elementary school children may learn to ask, 'Why do I choose to spend my time on this?'[2]

Where are children's interests--specifically, the 10- to 14-year-old? Are these interests reflected in the

---

[1]S. M. Amatora, "Home Interests in Early Adolescence," Genetic Psychology Monographs, Vol. 65, 1962, pp. 157-175.

[2]Almy, op. cit., p. 102.

school program? Can a school program be constructed which will utilize children's interests as types of experiences through which a child can better understand himself and his relationship with other people?

This chapter will attempt to (1) review some of the studies which illustrate the trends in early-adolescent interests, (2) describe in detail the results of an interest survey conducted by this investigator, and (3) relate the results of the survey to an educational program for middle-school students.

Interests will be defined broadly. "A person's wishes directly or indirectly reveal something concerning his outlook on life and what he wants from it. For this reason, findings with regard to the wishes children express might tell us much that is significant for education."[3] Wishes, likes, and dislikes are not necessarily the same as interests, but they do share a common element, in reflecting, directly or indirectly, what the student would like to do or what appeals to him. The interest inventory will attempt to deal with the wishes, interests, likes and dislikes of middle-school-age children of varying age, sex, race, and religion.

---

[3]Jersild and Tasch, op. cit., p. 9.

Review of the Literature

The Jersild study,[4] reported in 1949, was a broad survey. Pupils in grades 1-12 took part in the study and they represented large-city, small-city, suburban, and small-town communities located in the middle west, in the south, and in several localities within a radius of a hundred miles of New York City.

Information was obtained from both Negro schools and white schools. The groups numbered collectively over 2,000 children and the data were all collected subsequent to World War II.

The study did not attempt to give a thorough analysis of the motives influencing what the children wished, liked best, and disliked most; its aim was to examine the ". . . situations through which children seek to realize their wishes as described in the practical language of everyday life and to examine their conceptions of what they like and do not like at school . . . "[5] no matter the underlying motive. The following are the major findings and conclusions of the Jersild study.[6]

1. Children at all age levels are preoccupied with people and personal relations.
2. There is a strong element of self-interest in children's ideas about life.

---

[4] Ibid., p. 173.

[5] Ibid., p. 7.

[6] Ibid., pp. 71-87.

3. Children at the younger levels attach great importance to gifts.
4. There was much variation between interests of children in different schools.
5. There was evidence that children's interests are learned.
6. The findings showed an increase with age in interest in various forms of self-improvement.
7. At the middle school level (junior high) there appears to be a discrepancy between the students' goals and their understanding of the goals of the school.
8. The findings evidenced a decline with age in educational morale.
9. Social studies topics were mentioned more unfavorably than favorably throughout the groups.
10. There was frequent mention of chores when children described what they disliked outside school.
11. Many children expressed boredom.
12. There was little overlapping between the things that preoccupied children in school and the things that preoccupied them outside of school.

A more recent study[7] of young adolescents in grades 7 and 8 indicated that the students in the survey had interests that required initiative on the part of the adolescents. The picture drawn from the results of this study reveals days that are overcrowded to the bursting point with activities initiated by the students.

Interest in Television

In spite of the complaint that interest in watching television has supplanted all other activities, children and adolescents are involved in many traditional or conventional activities during a normal day. According to one study[8] homework, home chores, and play occupy nearly 75 per cent of a child's out-of-school leisure time in grades 5-8. However, television has a strong impact on the lives of children of all ages. When asked which medium (books, magazines, newspapers, comics, television, radio, or movies) they would miss most if they did not have it, the children of all ages and levels of intelligence voted preponderantly for television.[9]

---

[7]Purdue Opinion Panel, "Youth Looks at Politics, College Education, Jobs and Family," Report of Poll No. 60 (Lafayette, Ind.: Division of Educational Reference, Purdue, 1960), 22A.

[8]W. Schramm, J. Lyle, and E. B. Parker, Television in the Lives of Our Children (Stanford, Calif.: Stanford University Press, 1961), 324 pp.

[9]Ibid., p. 235.

Interest in Collecting

Cole and Hall[10] observed that modern boys and girls still collect things. They reported on three studies[11] conducted in the early thirties and concluded that the results were similar to the results of recent studies showing (1) the ages 9 to 13 to be when the collecting mania is normally in full force, (2) that at all ages girls make more collections than boys, and (3) there is no marked difference during adolescence in collecting between rural and urban youth.

Interest in Play

"The games children play and the intensity of their interests in games or exercise are thus indicative of their developmental age."[12] Since girls mature earlier than boys their social interests appear sooner and their concentration upon organized group games disappears earlier. Play among boys has a definite relation to size, health, and strength. One investigator who selected the highest and lowest 10 per cent in strength and fitness among a group of young adolescent boys found that the high group exceeded the low in all forms of active games, in their spectator interest, and in their

---

[10]Cole and Hall, op. cit., p. 184-185.

[11]Ibid., p. 185.

[12]Ibid., p. 188.

social activities.[13] The 10 per cent with the lowest fitness exceeded the high group in reading and in making things. There is no information as to whether this latter group preferred such activities or indulged in them because they could not compete successfully with their more vigorous age-mates.

Interest Questionnaires

"Recognizing that a child's happiness and success in school are related to the interests he has, teachers often seek suitable ways of studying interests."[14] Almy suggests that interest inventories provide significant information for teachers regarding children's attitudes, feelings, as well as specific information about their interests. Regarding the organization and make-up of a questionnaire Almy suggests the following criteria:[15]

1. The teacher should be certain that the child understands the questions.
2. The teacher needs to ask herself if the answers really reflect what the child feels.
3. All responses should be checked against other available information about the child.

---

[13] D. B. Van Dalen, "Differential Analysis of the Play of Adolescent Boys," Journal of Educational Research, 41 (1947), 204-213.

[14] Almy, op. cit., p. 12.

[15] Ibid., pp. 121-124.

Summary of Review of Literature

Early and young adolescents have a plethora of interests. These interests are influenced and learned as a result of home and school experiences. Television has a tremendous impact on children. Physical and social development are closely related to changes in interest patterns of students. Teachers should be aware of the forces which mold children's interests and be alert to opportunities to utilize these forces in planning experiences which will help a child realize his varied potentialities.

Analysis of Interest Survey Conducted in Three Suburban School Districts

This section of the study deals with children's wishes, interests, likes, and dislikes. The intent was to obtain information concerning children's interests and to ask what they mean for the school.

The Interest Inventory

The Interest Inventory (see Appendix A) was a one-page form which asked first for the child's name, school age, grade, date, sex, and teacher's name. There was a five letter code box on the upper right-hand corner which was used by the teacher to indicate religion and race.

In the "Instructions to Students" the pupils were told that their help is needed in getting information

from students in different parts of the country. They were urged to answer freely, to ignore questions they don't wish to answer, and not to worry about spelling. It then asked the students to respond briefly to the following items:

1. If I had three wishes I would ask for:
2. At school I like to learn more about:
3. I don't care to study about:
4. I like best at school:
5. I like least at school:
6. I like best outside school (when I'm not in school):
7. When I'm an adult I want to be:
8. At school I like to work with:
   A. Just students my own age _____
   B. Students of all ages _____
   C. Just students in my own grade _____
   D. Any student as long as I'm learning _____
9. In sports and games I want to be with:
   A. Just students my own age _____
   B. Students of all ages _____
   C. Just students in my own grade _____
   D. Any students as long as they know what they're doing _____

10. At school I like to work with:

    A. Just one teacher _____

    B. Many teachers _____

    C. Any number of teachers, as long as I Learn _____

The same aim in using items such as these rather than a check list was to allow the students as much freedom as possible to answer in their own words and still be brief.

It could be argued that wishes are not necessarily the same as interests; however, they do have a common element for a child's wishes reveal what he would like to do or what experiences appeal to him.

How the Inventory Was Used

The inventory was administered to all students in grades 5-9 in East Lansing, Michigan; to all students in grades 5-9 in the University Heights section of the Cleveland Heights-University Heights, Ohio schools; and to all students in grades 5-9 in Warrensville, Ohio.

Twenty per cent of all responses were used on a random-selection basis. There were 412 East Lansing questionnaires used, 135 from Warrensville and 120 from University Heights.

The instrument was administered by teachers in East Lansing and University Heights and all Warrensville administration was done by a single guidance counselor.

The teachers were asked (see Appendix B, "Instruction to Teachers) to indicate the child's race and religion as well as answer a question regarding school organization. Teachers were asked to describe their classroom as:

A. Self-contained _____

B. Modified self-contained _____ (assisted by some specialists)

C. Departmentalized _____ (chiefly taught by specialists)

D. Cooperatively taught _____ (two teachers exchanging some classes)

E. Team taught _____ (a team of teachers assigned to one group of students)

The teachers were told to check as many of the above as appropriate. This information was desired in order to relate it to questions 8-10 of the student inventory.

Treatment of Data

A set of categories was devised for analyzing the data. Answers that seemed to have a common element were put under common headings.

The complete set of categories used in the analysis of children's interests, likes, dislikes and wishes is reproduced in Appendix C.

The Groups Studied

Pupils in grades 5-9 took part in the study. Most middle school classes are made up of grades 6-8; grades 5-9 were included in order to better establish whether or not there are observable differences in students included in middle school and those younger and older.

In University Heights the students come from predominantly middle class, Jewish homes. Negroes make up less than one per cent of the population.

In Warrensville the students come from predominantly lower middle class homes. Four years ago there were no Negroes in the district. Over thirty per cent of the students are Negro today and the majority of the remainder are second generation Hungarians, Italians, and Poles--most of whom are Catholic.

East Lansing is a middle class community, predominantly Protestant, with less than one per cent Negro students in the schools.

The Bounds of This Study

The study is frankly an inventory of the wishes, interests, likes and dislikes children express when they are asked simply what they wish and what they like best and dislike most. The study does not purport to give a clinical analysis of the motives underlying these expressions.

In the process of examining this information the investigator will also attempt to determine if there are interest trends based on age, race, or religion.

Children's Wishes

Table 1 reveals that a large proportion of children at all ages in the survey wish for specific material things, but there is an overall decline with age. The following are other trends relative to age:

1. The children's wishes included a small number pertaining to school subjects. At the middle school level (grades 5-8) negative wishes outnumbered positive wishes ten to one. At the ninth grade level, such negative wishes outnumbered positive ones by two to one. This bit of evidence seems to indicate that middle school pupils see the educational program as less relevant than do senior high pupils. Many of the high school pupils were looking to the future and expressed hope for the future such as being able to use their high school and college experiences to obtain self-improvement. There were relatively few wishes from high school pupils which bore upon the students' contemporary school life.

2. There was no consistent change with age in connection with wishes having to do with intellectual activities such as reading, writing, working with math or scientific exploration. At no level were there many wishes of this sort.

TABLE 1.--My three wishes including wishes pertaining to life in and out of school.

Category	School No.	Grade 5				Grade 6				Grade 7				Grade 8				Grade 9			
		A	B	C	Avg	A	B	C	Avg	A	B	C	Avg	A	B	C	Avg	A	B	C	Avg
		75	27	19	40+	82	26	27	45	89	29	24	47+	81	31	23	45	85	22	27	45-
		Percentages																			
A. Material things		35	48	29	37	40	35	27	31	20	35	30	28	18	27	26	24	13	25	25	23
B. Sports, play		7	6	5	6	6	5	5	5	6	5	4	5	5	4	2	4	2	3	2	3
C. People		6	5	4	5	5	4	8	6	5	3	8	5	2	3	7	4	1	3	2	2
D. School subjects		2	3	7	5	0	3	7	3	0	5	5	3	1	3	7	4	0	3	8	4
E. School activities		0	0	0	0	0	0	0	0	2	0	0	1	3	0	0	1	2	0	0	1
F. Love-friendship		6	0	5	4	4	0	4	3	2	0	3	2	2	0	2	1	4	0	2	2
G. Wisdom		0	0	0	0	3	0	1	1	2	0	0	1	1	0	1	1	1	0	2	1
H. Self-improvement		7	3	7	6	7	7	7	7	10	10	5	8	11	11	5	9	12	10	12	11
I. Misc'l. school		5	14	4	8	7	7	5	6	7	3	6	5	6	9	8	8	5	5	12	7
J. Freedom		2	0	0	1	3	0	2	7	3	0	3	2	1	0	0	0	4	0	0	1
K. Benefits to self		5	6	9	7	5	7	10	7	5	9	10	8	8	10	12	10	7	7	7	7
L. Peace		6	6	14	9	13	8	12	11	13	10	10	11	14	10	9	11	18	17	10	15
M. Happiness		2	0	3	2	3	3	3	3	10	5	5	7	14	7	4	8	15	6	3	8
N. Equality		2	0	1	1	1	1	1	1	3	1	1	2	3	1	2	2	4	4	3	4
O. Misc'l. benefits to others		7	5	7	6	6	4	6	5	7	5	8	7	7	6	9	7	10	7	7	8
P. Everything-nothing		9	3	0	7	7	4	3	5	6	9	2	6	5	9	8	7	5	10	5	7

School A = East Lansing School B = Warrensville School C = University Heights

Note: Each response listed three wishes. The wishes were tallied individually. The percentage is based on three times the number listed.

3. Wishes having to do with artistic activities and enjoyment of art were expressed by a limited number of children at all grade levels. Wishes relating to artistic endeavors showed no consistent trend with age.

4. As the children grow older an increasing number expressed wishes pertaining to life and school.

5. An impressive number of the older children voiced a desire for skills, qualities, and opportunities that would enable them to be independent and stand on their own two feet. There was an increase with age of the desire to possess the personal qualities, abilities, and skills that would prepare them for the demands of adult life.

6. As the students grow older there is an increase in wishes for benefits to mankind at large. Less than 17 per cent of the fifth grade pupils were concerned with peace, happiness, equality and miscellaneous benefits to others while more than 35 per cent of the ninth graders showed concern in these areas.

An average of eight per cent of all ninth graders wished for happiness for themselves or others while an average of only one per cent of all fifth graders expressed this.

Peace was a major concern at all grade levels ranging from an average of nine per cent at grade five to fifteen per cent at grade nine. The students

generally expressed a desire simply for "peace," although many used the expressions "peace in Vietnam" or "peace in the world." The "peace in Vietnam" expression was more common among Warrensville students who often qualified their wish by commenting that they had a relative in Vietnam.

In general, wishes for the intangible and noble ideals increased gradually and steadily from grades five through nine. The only exception was in the peace category. There were more University Heights fifth graders concerned about peace than University Heights ninth graders. Nearly three times as many ninth graders in the other two districts showed concern with peace as did fifth graders in their districts.

7. In the Jersild study[16] less than three per cent of the students expressed a wish for a lasting peace while in this study the percentages ranged from three to eighteen per cent, with no grade level average less than nine per cent. The concern gradually increased from nine per cent at grade five to thirteen per cent, as an average, at grade nine.

8. No students in grades five and six expressed wishes pertaining to social activities. Parties, dances, clubs, etc., were not mentioned until grade seven and then by students in only one school district. Only in East

---

[16] Ibid., p. 19.

Lansing, in grades 7, 8, and 9, were these subjects mentioned at any of the five grade levels.

9. A trend does develop when wishes categorized as school subjects, miscellaneous school, and benefits to self are examined. The negative feelings the students express about school subjects, school demands, and the benefits they desire for themsevles present a very strong plea from the students for "involvement." The three categories show a pattern of declining educational morale. The students reported that they liked experiences which enabled them to take the initiative in carrying out activities or gave them a chance to carry a certain amount of responsibility. Interests of this sort should be cultivated and utilized more in the middle school program.

Community Differences in Children's Wishes

A trend appeared to develop among the three communities in wishes for material things. While all students from grades five to nine showed a decrease in wishes of this type, the decline was more dramatic with East Lansing students. In grade nine nearly twice as many students in the other two districts were still requesting material things as were East Lansing pupils. The shift from grade five to nine was clearly from material things to freedom, peace, happiness, and equality. Those combined areas

gained 32 per cent from grades five to nine while material wishes lost 22 per cent.

No pupil at any grade level in Warrensville mentioned love or friendship while these factors were desired by as many as six per cent of the students in the other two districts.

Differences in Children's Wishes Based on Religious Background

The two recognized religious groups in this survey were Jews and gentiles. All non-Jews were considered to be gentiles.

Ninety-two per cent of the 120 students in the University Heights' sample were Jewish. Jews made up less than one per cent of the population of either of the other two samples.

No University Heights (Jewish) students expressed wishes relating to sports or play at the ninth grade level.

In the combined areas of "school subjects" and "miscellaneous school wishes" the University Heights students at grade nine expressed five times as many concerns as did East Lansing students. A desire for good grades was one of the most commonly expressed wishes as was the wish for for involvement.

In "benefits to self" the University Heights pupils showed a steady increase from grades five to nine.

Fourteen per cent of the ninth graders expressed wishes such as: good luck, good paying job, immunity from injury, and good health. Only University Heights students showed concern over good health.

Racial Differences in Children's Wishes

Negroes in the study were found in significant numbers only in Warrensville. Thirty per cent of the students in this survey from Warrensville were Negro while the overall student population consisted of 32 per cent Negro.

There were some relatively dramatic differences in the wishes of the Negro and white populations of Warrensville:

1. No white Warrensville student expressed a desire for "equality" or an end to racial prejudice. As many as 50 per cent of the wishes of Negores at certain grade levels were in this category.

2. Negro pupils, in the "people" category, wished for "teachers who would be fair to everyone" as the single most numerous request.

3. There was very little difference between Negro and white in percentage of requests for material things.

4. There were numerous wishes by Negro students to return to their "old school" or a "school in Cleveland."

Almost all of these students had moved to Warrensville from Cleveland within the past four years.

Sex Differences in Children's Wishes (Table 2)

The wishes of the two sexes have some similarities as might be expected after examining other studies.[17] However, at all grade levels from two to five times as many girls expressed wishes pertaining to people. Girls mentioned marriage (often wished for happy ones) and having children. They often mentioned teachers and administrators and those they wished association with or riddance of. Girls were more likely to mention companionship with parents, wish for siblings to play with or care for, and showed more concern with being separated from parents.

Boys expressed an interest in sports that showed three to five times as much interest as girls. Boys longed to be sports heroes or to have more times to engage in games. Very few boys mentioned sedentary contests or games of skill.

A conspicuously larger percentage of girls than boys expressed a wish for love or friendship. There were many female wishes for companionship, to have friends, to be able to have people come to visit, for boy friends to like them, for boy friends not to move away, and

[17] Ibid., p. 21.

TABLE 2.--Sex differences in children's wishes.

Category	School No.	Grade 5 A	Grade 5 B	Grade 5 C	Grade 5 Avg	Grade 6 A	Grade 6 B	Grade 6 C	Grade 6 Avg	Grade 7 A	Grade 7 B	Grade 7 C	Grade 7 Avg	Grade 8 A	Grade 8 B	Grade 8 C	Grade 8 Avg	Grade 8 A	Grade 8 B	Grade 8 C	Grade 8 Avg
	B	40	11	10	20	40	13	14	22	40	16	12	33	40	16	13	23	45	11	13	23
	G	35	16	9	20	42	13	13	24	49	13	12	25	41	15	10	22	40	11	14	22
A. Material things	B	17	24	15	19	16	14	12	14	11	16	15	14	9	14	13	12	10	12	12	11
	G	18	24	14	19	14	11	15	13	9	14	15	13	9	13	13	12	3	15	15	11
B. Sports, play	B	6	5	4	6	5	4	4	4	4	3	3	3	4	3	1	3	2	2	0	1
	G	1	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1	0	1	0	0
C. People	B	1	2	1	1	1	1	2	1	2	1	2	3	0	1	2	1	0	0	0	0
	G	5	3	3	4	4	3	6	4	3	2	8	4	2	2	5	3	1	3	2	2
D. School subjects	B	1	2	4	3	0	2	3	2	0	0	3	1	0	2	3	3	0	1	4	3
	G	1	1	3	3	0	1	4	2	0	2	3	2	1	1	4	3	0	2	4	3
E. Social activities	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	G	0	0	0	0	0	0	0	0	2	0	0	1	3	0	0	1	2	0	0	1
F. Love-friendship	B	1	0	1	1	1	0	1	1	0	0	1	0	0	1	0	0	1	0	0	0
	G	5	0	4	3	5	0	3	2	2	0	2	1	2	4	2	3	3	0	2	2
G. Wisdom	B	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
	G	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
H. Self-improvement	B	7	1	4	4	7	1	3	4	6	2	2	3	6	1	2	3	6	2	3	4
	G	5	2	3	3	5	2	4	4	4	1	3	3	5	1	3	3	6	1	2	3
I. Misc'l. school	B	3	7	1	4	4	5	3	4	2	5	3	3	3	4	4	4	3	3	5	4
	G	3	7	2	4	3	7	2	4	5	5	3	4	3	5	4	4	2	2	7	4
J. Freedom	B	0	0	0	0	0	0	1	0	1	0	1	1	1	0	0	0	2	0	0	1
	G	0	0	0	0	0	0	1	0	0	0	2	1	0	0	0	0	2	0	0	1
K. Benefits to self	B	1	2	2	1	5	2	1	3	2	2	1	2	2	2	1	2	2	2	4	3
	G	4	4	7	5	10	5	4	6	8	7	4	6	6	8	8	7	5	8	10	8
L. Peace	B	3	3	8	5	6	4	4	5	6	5	6	6	7	5	4	5	9	9	1	6
	G	3	3	6	4	7	4	8	6	7	5	4	5	7	5	5	6	9	8	2	6
M. Happiness	B	0	0	2	1	1	2	1	1	5	3	1	3	7	3	2	5	9	3	1	4
	G	0	0	1	0	0	1	2	1	5	2	4	4	7	4	2	4	6	3	3	4
N. Equality	B	0	0	1	0	0	0	1	0	2	1	2	3	2	0	0	1	3	2	2	2
	G	0	0	0	0	1	1	0	1	1	0	0	0	1	1	2	1	2	2	1	2
O. Misc'l. benefits to others	B	4	2	5	3	3	2	2	2	4	1	4	3	3	5	4	4	5	5	4	5
	G	3	2	4	3	3	2	4	3	3	2	4	3	4	5	5	5	5	6	5	5
P. Everything-nothing	B	5	1	4	3	3	2	3	3	4	1	4	3	3	5	4	4	5	5	4	5
	G	4	2	5	4	3	2	3	3	3	2	4	3	4	5	5	5	5	6	5	5

School A = East Lansing School B = Warrensville School C = University Heights

to be asked for a date. There were enough female wishes for love and friendship that it was assumed a separate category apart from people wishes.

Findings on the School Program

Tables 3 and 4 asked pupils what they would like to learn more about in school and what they did not care to study about. In all schools and at all levels, items in the broad category that includes academic subject matter areas were mentioned most frequently when students told what they liked to learn more about in school.

Mathematics, science, and the broad category of language arts generally scored highest in popularity.

Interest in learning more about sports and games gradually declined from an average of eight per cent at grade five to an average of two per cent at grade nine.

Parties, dances and social affairs showed an unusual pattern: no one in either grade five or grade nine indicated an interest in learning more about those areas while from one to three per cent of pupils in grades six to eight showed some interest.

Interest in learning more about social problems (pollution, discrimination, civil rights, etc.) was evident at all levels, gradually and consistently increasing from two per cent at grade five to eleven per cent at grade nine.

TABLE 3.--What I'd like to learn more about in school.

Category	School No.	Grade 5 A 75	B 27	C 19	Avg 40	Grade 6 A 82	B 26	C 27	Avg 45	Grade 7 A 89	B 29	C 24	Avg 47	Grade 8 A 81	B 31	C 23	Avg 45	Grade 9 A 85	B 22	C 27	Avg 45
		Percentages																			
A. Sports, games		8	9	7	8	7	4	8	6	5	7	5	6	3	6	4	4	2	3	0	2
B. Parties, dances		0	0	0	0	1	0	3	1	2	1	2	2	2	2	1	2	0	0	0	0
C. Subject matter																					
Math		17	10	12	13	15	9	12	12	13	7	11	10	15	6	14	12	12	5	17	11
Spelling		3	6	4	4	2	5	4	4	1	2	0	1	0	0	0	0	0	0	0	0
Language		15	12	14	14	15	12	13	13	14	11	15	13	12	7	16	12	14	8	15	12
Health		6	5	10	7	4	6	8	6	5	7	7	6	7	7	6	7	3	6	8	6
Social Studies		2	3	12	6	5	5	8	6	7	9	2	6	9	7	1	6	6	6	0	4
Miscellaneous		10	14	12	12	11	11	10	10	9	16	11	12	5	16	1	7	11	12	1	8
Science		14	15	10	13	16	13	13	11	18	8	15	14	21	12	25	19	23	12	24	20
D. Art		4	4	5	4	3	7	4	5	5	3	3	4	3	6	1	3	4	7	0	4
E. Home Economics		0	5	0	2	0	4	0	1	2	3	1	3	2	3	2	2	2	3	4	3
F. Industrial Arts		0	0	0	0	2	1	0	1	5	5	6	5	5	7	5	6	4	9	4	6
G. Music		3	2	3	3	3	1	2	2	4	2	4	3	3	2	3	3	2	3	4	3
H. Self-improvement		2	4	0	2	3	7	4	5	3	8	0	4	3	7	4	5	3	11	4	6
I. Nothing-everything		12	7	10	10	11	10	7	9	2	6	9	6	3	7	6	5	4	8	6	6
J. Computers		0	2	0	1	0	1	2	1	0	0	1	0	0	1	2	1	3	0	4	3
K. Social Problems		4	2	0	2	4	3	3	3	6	5	8	6	7	4	9	7	5	7	10	11

School A = East Lansing School B = Warrensville School C = University Heights

TABLE 4.--I don't care to study about.

Category	School No.	Grade 5 A 72	Grade 5 B 27	Grade 5 C 19	Grade 5 Avg 40	Grade 6 A 82	Grade 6 B 26	Grade 6 C 27	Grade 6 Avg 45	Grade 7 A 89	Grade 7 B 29	Grade 7 C 24	Grade 7 Avg 47	Grade 8 A 81	Grade 8 B 31	Grade 8 C 23	Grade 8 Avg 45	Grade 9 A 85	Grade 9 B 22	Grade 9 C 27	Grade 9 Avg 45
		Percentages																			
A. Sports, games		3	2	2	2	0	3	1	1	3	3	1	2	5	1	1	2	1	4	3	3
B. Math		14	16	10	13	12	14	15	14	15	12	7	11	10	7	5	7	9	11	10	10
C. Spelling		7	8	10	8	3	5	7	5	0	2	1	1	0	0	0	0	0	0	0	0
D. English usage		2	1	3	2	5	7	2	5	10	12	15	12	12	13	17	14	13	12	13	13
E. Reading		12	13	10	12	11	9	5	8	3	2	2	2	1	1	0	1	1	0	0	0
F. Science		9	2	5	5	8	9	8	8	5	8	12	8	5	7	5	6	9	15	17	14
G. Health		0	1	3	1	0	2	3	2	2	3	1	2	3	1	2	2	2	0	0	1
H. Social Studies		8	9	6	8	7	10	11	9	5	7	9	7	3	11	13	9	17	19	16	17
I. Art		0	7	3	3	1	4	1	2	2	1	3	2	4	3	1	3	0	2	2	1
J. Music		6	9	5	7	7	9	7	8	8	9	11	9	7	9	8	8	1	3	1	2
K. Industrial Arts		0	0	0	0	0	0	0	0	2	1	5	3	2	2	1	2	1	2	3	2
L. Home Economics		0	0	0	0	0	0	0	0	5	7	3	5	3	8	2	4	1	2	2	2
M. Foreign language		0	0	12	4	15	0	17	11	12	11	7	10	17	19	24	20	13	7	8	9
N. Typing		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	5	5	5
O. Nothing-everything		20	17	19	19	16	17	16	16	13	12	9	11	11	7	9	9	10	5	11	9
P. Homework		19	16	12	16	17	11	12	13	15	10	14	13	17	11	13	14	16	13	9	13

School A = East Lansing School B = Warrensville School C = University Heights

By way of contrast the very subjects students wanted to learn more about (math, language arts, science) were the subjects students indicated (see Table 4) that didn't care to study about. However, the most unpopular subject areas of all seem to be science, English usage, and foreign language. An average of 20 per cent of all eighth grades showed a dislike for foreign language and this is in spite of the fact that it is not a basic subject that all pupils must take. The unpopularity of social studies grew through the years until by grade nine it was the most unpopular at that level.

The unfavorable attitude which children show toward the social studies as they are taught in the schools becomes more significant when considered in relation to other findings. Eleven per cent of all ninth graders (15 per cent of East Lansing students) wanted to learn more about social problems while 17 per cent of all ninth graders "didn't care to study about" social studies. Could it be that a study of social problems might make social studies a more appealing and more relevant area of study?

Out-of-School Interests

In order to obtain a balanced picture of children's interests outside school, the inventory asked what they liked best outside of school.

At all age levels the most popular things outside of school are those falling in the category which includes sports, games, play and the like (Table 5). About 60 per cent of the students at all levels named events in this category. Other popular features of out-of-school life include going to recreational spots, going to the movies, theater and watching television, and being with people.

While the replies cover a large range, it is apparent that experiences involving bodily activity, doing something or going somewhere, are much more prominent than activities of a more intellectual character.

Age Trends

There are certain age trends, more or less in keeping with what might be expected in what children like best outside school. There is an increase with age in the popularity of social activities, and a slight increase in mention of matters pertaining to self-improvement which includes vocational preparation. Interest in the arts doubled between grades five and nine.

School in Children's Preoccupations

Results of this study indicate that the school does not enter as deeply into a student's preoccupations as do many other things in his life. Most children

TABLE 5.--I like best outside school--when I'm not in school.

Category	School No.	Grade 5 A 75	B 27	C 19	Avg 40	Grade 6 A 86	B 26	C 27	Avg 45	Grade 7 A 89	B 29	C 24	Avg 47	Grade 8 A 81	B 31	C 23	Avg 45	Grade 9 A 85	B 22	C 27	Avg 45
		Percentages																			
A. Material things		1	1	1	1	1	0	1	1	0	2	1	1	1	0	1	1	2	1	1	1
B. Sports, games		61	67	62	63	60	62	58	60	58	55	59	57	59	60	55	58	55	56	60	57
C. Recreational spots		10	11	15	12	7	10	12	10	10	9	13	11	9	8	8	8	6	3	8	6
D. Movies, theater		3	5	7	5	6	5	3	5	8	7	6	7	7	9	6	7	6	7	5	6
E. Social activities		2	2	1	2	3	3	5	4	4	6	6	5	5	6	6	6	7	8	9	8
F. Areas of study		1	0	1	1	1	0	1	1	1	1	0	1	0	0	1	0	0	1	1	1
G. Arts		3	3	4	3	4	3	6	4	5	3	6	5	5	3	5	7	6	4	7	6
H. Domestic arts		1	1	2	1	1	1	0	1	1	0	0	0	1	0	1	1	1	0	0	0
I. Hobbies		3	3	4	4	3	3	4	3	3	3	2	3	3	1	1	1	2	3	1	2
J. Self-improvement		1	0	1	1	2	1	2	2	3	3	3	3	1	3	0	1	3	3	4	3
K. Benefits to self		1	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	1	1	0	1
L. Benefits to others		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M. People		3	2	0	2	4	2	2	3	5	4	1	3	5	3	3	4	4	2	2	3
N. Miscellaneous		7	3	1	4	4	4	1	3	1	3	1	2	1	3	1	3	3	2	1	2
O. Everything-nothing		3	2	1	2	2	2	2	2	1	3	1	2	2	1	6	3	2	3	2	3
P. Loaf		1	1	0	1	2	3	3	2	1	1	2	1	2	2	6	3	2	5	0	3

School A = East Lansing School B = Warrensville School C = University Heights

exhibit little overlap between interests in school and out of school when describing what they wish for and what they like best. There is little or no reference to school projects in connection with experiences that the child regards as most appealing in his out-of-school life.

In most of the groups in this study, a majority of children seemed neither especially enthusiastic nor especially disgruntled with school. Rather, they seemed to take school in stride as a routine assignment. School life is apparently not so challenging that children spontaneously think of it when questions are asked in a manner that directs their thoughts away from school.

The fact that children do not seem to be very much preoccupied by school does not mean that school is unimportant to them. The student who does not think of school as one of the most vital things in his life probably will be affected by failure or success in school and will be sensitive to social difficulties in his relations with other children at school.

Likes and Dislikes at School

Question four of the inventory (I like best at school) and question five (I like least at school) did not prove to be very discriminating questions. They appeared to almost exactly duplicate questions two and three which asked students what they would like to

learn more about and what they didn't care to study about.

What the student liked to learn more about was generally listed as what he liked best at school. That which the student didn't care to study about was usually that which he liked least at school.

The major exception was a mention of homework. Five per cent of the students at all levels mentioned homework as that which they liked least at school.

Adult Goals

Question seven asked the students to tell what they wanted to be as an adult. There were no age, community, race, or religious trends that could be observed. The most typical response would list several vocations. The only category that received as many as four per cent of the responses was: "I don't know yet" or "I haven't decided."

School Organization

Questions eight, nine, and ten were designed to determine attitudes students might have about school organizations.

Students were asked in question eight if they preferred to work with just students their own age, students of all ages, students in their own grade, or any students as long as they were learning.

Question nine asked about sports and games.

Question ten asked the student if he would like to work with just one teacher, many teachers, or any number of teachers as long as the student was learning.

In the "Instructions to Teachers" (Appendix B) the teacher was asked to identify her class as one taught on a self-contained basis, modified self-contained, cooperatively taught, or team taught. This information was requested in order to determine whether or not the students' own classroom organization had any relationship to his preference for school organization.

Table 6 reveals the following about the organizational patterns in the three districts:

1. No teachers identified their classrooms as being completely self-contained.
2. The modified self-contained classroom was the dominant structure in all districts in grades five and six.
3. Departmentalization or a combination of departmentalization and team teaching prevailed in grades seven through nine.

Table 7 reveals several trends regarding student preferences in working and playing with students and working with teachers:

TABLE 6.--Type of organization of classrooms in the survey.

Organization	School	Grade 5			Grade 6			Grade 7			Grade 8			Grade 9		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
		Percentages														
1. Self-contained		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Modified self-contained		50	100	75	50	100	80	0	0	0	0	0	0	0	0	0
3. Departmentalized		0	0	0	0	0	0	0	100	100	0	100	100	0	100	100
4. Cooperatively taught		10	0	25	20	0	20	0	0	0	0	0	0	0	0	0
5. Team taught		13	0	0	10	0	0	0	0	0	0	0	0	0	0	0
6. Team taught and departmentalized		26	0	0	20	0	0	100	0	0	100	0	0	100	0	0

TABLE 7.--Student preferences regarding working and playing with students, and working with teachers.

Preferences	School	Grade 5			Grade 6			Grade 7			Grade 8			Grade 8		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
		Percentages														
At school I like to work with:																
A. Just students my own age		14	21	17	15	18	21	13	12	15	10	12	13	7	5	3
B. Students of all ages		18	24	21	21	25	27	42	44	39	57	52	57	63	65	67
C. Just students in my own grade		20	21	20	14	10	6	10	12	17	7	6	2	3	5	6
D. Any students as long as I'm learning		48	34	42	50	47	46	35	32	33	26	30	28	27	25	24
In sports and games I want to be with:																
A. Just students my own age		18	26	22	17	16	19	16	14	16	17	18	14	16	17	19
B. Students of all ages		25	33	27	21	28	30	32	32	34	36	39	37	40	43	39
C. Just students in my own grade		54	32	42	60	52	43	45	48	43	44	38	40	36	37	41
D. Any student as long as they know what they're doing		3	9	9	2	4	3	7	6	7	3	5	9	8	3	1
At school I like to work with:																
A. Just one teacher		25	26	24	23	25	27	23	19	20	17	16	19	20	17	16
B. Many teachers		25	32	27	27	29	31	35	33	36	41	41	41	40	43	44
C. Any number of teachers as long as I learn		50	42	49	50	46	42	42	48	44	42	43	40	40	40	40

1. As students get older they become less concerned about the age of their classmates. Ninety per cent of grade nine students were willing to work with students of any grade or ages while only 66 per cent of grade five pupils were willing to work with students of different grades and/or ages.

2. Students at all ages were reluctant to participate in sports and games with students of different grades and ages. About 70 per cent of grade five pupils wanted to play sports and games only with students of their own age or grade.

3. Most students, at all grade levels, showed a preference for working with more than one teacher. At grade five about 25 per cent of the students expressed a preference for working with just one teacher. At grade nine this declined to about 17 per cent.

4. Since all grade seven through nine students were actually working with many teachers at the time of this survey it would be impossible to say whether age or experience accounts for the students' preference for many teachers.

5. No student made reference to sex, race, or religion when expressing a preference for work-mates or sports- and play-mates.

Summary

The following are some of the major findings and conclusions of this study:

1. Middle school pupils apparently see school as less related to life than do high school pupils.

2. As the students grow older there is an increase in wishes for benefits to mankind. However, this is contradicted by data in Table 5 which indicates that none of the students at any level were spending much time outside of school in activities designed to benefit mankind.

3. Wishes for the noble ideals of peace, equality, and happiness increased gradually and consistently in number from grade five to grade nine.

4. Much of the evidence indicates that interests are learned. What a student wishes to do is influenced by what he has had the opportunity to do.

Regardless of opportunity, children's interests will differ as they become older and as they become physically, intellectually, socially, and emotionally more mature.

5. The findings show an increase with age in interest in various forms of self-improvement, vocational fitness, educational opportunity, understanding of self and others, and self-responsibility.

6. As the students grow older the findings indicate an increasing interest in the welfare of mankind. This is in contrast to negative expressions regarding social studies. This suggests that teachers need to be alert to the kinds of problems and issues that are best suited to different levels of intellectual and social maturity. Teachers need to look for information on how issues that are important in the life of the world may be dealt with in terms that a child can appreciate and understand in the light of his own background of knowledge and experience.

7. There was evidence of community differences when students showed interest in love, friendship, peace, freedom, equality and happiness. This suggests that interests are learned and that school programs need to be examined to determine if certain areas of interest could be developed by the school.

8. A major interest in good grades was noted in one district. This too suggests that interests and school preoccupations are learned.

9. Certain activities such as watching television which, according to other studies, occupy a great deal of children's time do not seem to represent deep interests. There are many indications that children are merely marking time with certain activities for lack of something better to do.

10. Experiences involving bodily activity, doing something, or going somewhere are of major interest to boys and girls at all levels and in all districts.

11. School projects were rarely mentioned when students referred to out-of-school interests. Apparently students see little correspondence between what happens in school and out of school.

12. Younger children seemed more concerned with the age of their classmates than did older children.

13. Children at all age levels tended to accept the idea that more than one teacher could work successfully with one group.

These findings underscore the importance of making provision in the educational program for a variety of interests in order to account for the fact that children differ so markedly in their make-up. Only by this means can the school, child, and teacher profit by the diversities of human nature and human experience. Variety of opportunity is needed to not only enable children to develop interests in keeping with the kinds and levels of the abilities, but also to enable them to pursue such interests at a pace and with an intensity suited to their temperament.

Conceived in these terms, schools will produce a highly flexible program with little obligatory conformity from class to class and teacher to teacher.

CHAPTER IV

GUIDELINES FOR THE IMPROVEMENT OF A MIDDLE SCHOOL PROGRAM

Climate for Learning

Earlier chapters examined the important physical and intellectual characteristics of the ten-to-fourteen-year olds, their interests, and the cultural forces that affect their behavior. These variables suggest that students in this age range require a unique educational climate, one that is highly flexible. This flexibility should encourage independence and creativity without restricting or discrediting academic achievement.

The sections that follow in this chapter will discuss these interests, physical and intellectual characteristics and cultural forces, and their relationship to the development of a flexible school climate. These sections will describe specific guidelines for an educational program.

Relationship of Physical Growth to School Program

Physical activities are sources of much satisfaction to middle-school students. However, the vast individual variations in physical growth and maturity can create

severe problems and social embarrassments in a school climate which stresses physical standards and goals which can be attained only by the physically mature or physically talented student. Interscholastic sports should be avoided in favor of intramural programs, in which all students can feel free to participate. The intramural programs should be concurrent with, and derived from the classroom program of physical instruction, with intramural activities providing the competitive, but low-pressure aspect to team sports.

During this period of rapid growth, beginning at about the age of ten in girls and twelve in boys, the middle-school student needs a climate of friendly trust which permits him to discuss his unusual and rapid bodily changes. The student needs to be able to receive accurate information and friendly counsel from teachers, nurses, and counselors. There should be many opportunities for easy and informal contacts between staff members and students. Formal appointments, especially those made through a secretary who insists on knowing what the student wishes to discuss, should be avoided.

Situations which could create emotional distress, caused by students' physical growth differences, should be minimized. These individual variations in growth can create severe problems for the boy or girl whose growth pattern produces an inadequate physique. The fast-growing

boy who is stoop-shouldered, long-limbed and lethargic, could and should be made to understand that his lack of muscles and lethargy may be caused partly from physical factors and partly from his psychological attitudes about his growth. The knowledgeable, well-qualified physical education teacher will provide much of this guidance, however, the school budget should allow for consultation with specialists called in by school staff.

The student who wants to hide his physically inferior body should be given a modicum of privacy and individual showers, while adding to the expense of construction, may be a better choice than group showers.

The effects of sensory growth, related to those of physical growth, need the understanding patience of informed teachers. The middle-school child who suddenly shows a severe decline in school performance for no apparent reason may be suffering through a period of sensory growth changes. The student seems to have no real control over his performance and might well be ashamed of his own puzzling behavior. Avoidance of criticism by the teacher appears to be her major weapon. A conference with the student's parents may help allay the fears of parents and reduce the tension which might be created by deteriorating academic behavior.

Sexual Maturation and the School Program

The physical, social, and emotional changes resulting from sexual development (discussed in Chapter II) are certain to create problems for the school program. The problem is particularly acute for boys since the typical teacher of students 10 to 14 year old is a female. When a girl has a problem she can go to any number of teachers without much embarrassment and expect to get a reasonably accurate and satisfying answer. Since so few teachers are men a boy does not have a wide choice of personalities to turn to. He rarely can feel free to talk of sexual problems with a female teacher. The average early adolescent boy gets much of his sex information outside school; unfortunately, some of this information is not true.

Some schools are offering sex education programs to middle-school students. Since the boys maturity rate differs substantially from that of the girls, the interest in and readiness for sex information varies considerably between the sexes. As an example, girls need menstruation information before the age of ten--a time when most boys show less eagerness in securing the information.

Middle school may well be the worst possible time for boys and girls to be educated together. They are dissimilar in size, physiological age, attitudes, and

sexual maturity. It may well be that the number of problems in the typical middle-school classroom would be significantly reduced if boys could be taught by men and girls by women, and if the sexes could be separated in classes and in games. This would still allow contact in non-school hours but only on a voluntary basis. Classes made up of both boys and girls could be resumed at the high school level.

Classes for separate sexes in middle schools could reduce some of the emotional and social anxiety and tensions which are created by the student's internal forces and intensified by the school's external forces.

Physical Growth and Identity

The ego of the early adolescent is subjected to very severe strains as a result, in part, of the new flood of stimuli which accompany the physiological changes he undergoes. Hutt and Gibby[1] state that the adolescent ego frequently uses "identification" as a method of dealing with stresses and strains. They point to a significant difference between the identifications of the adolescent and the child: the child identifies primarily with his parents while the adolescent seeks other figures with whom to identify. The early adolescent turns to his peers and, to a lesser extent, to his teachers. Since

---

[1]Hutt and Gibby, op. cit., p. 325.

identifications, both peer group and individual are of great importance, the advisability of separate classes for the sexes and more male teachers for boys, seems to gain support. Early adolescence is essentially the time when a child gains a new body. The person has to learn what his body can do, how to control it, and whether he and others like its appearance. More male teachers and single-sex classes where the male students can less self-consciously inquire about the role of the male should serve as an advantage. The same situation applies to girls and single-sex classes.

The studies reported in Chapter II indicated that physical growth and psychological growth are interrelated in many ways. Since physical appearance and adequacy are of such great concern to the early adolescent, and since he is involved in building a sense of identity, teachers must recognize these needs and be prepared to assist both sexes in a good understanding of their growth. The school should provide in-service education to all teachers to provide them with a more thorough preparation for this general-counseling role.

Each middle-school organization should provide every student with at least one adult to whom he can go for information and assistance regarding any problem which relates to his participation in the school program. In view of the number of problems which plagues schools

at all levels, there seems little hope that the middle school can have sufficient trained counselors to provide a ratio of counselors to children small enough that each child can have immediate and extended access to his counselor. Further, there is a value in a relationship of teacher to pupil which involves a teacher in the initial counseling of each child. A plan whereby each child is a member of a same-sex home-room group led by a teacher-counselor, seems desirable.

Teacher Training

Teacher training institutions must recognize the need to have subject matter specialists who can provide student direction in organizing knowledge and developing skills for continued learning at the same time they are assisting the student in his personality development. New certification standards need to be developed which will provide the guidelines for giving specialized training to the prospective middle school teacher.

Intellectual Development and the School Program

Flexibility is also a key ingredient when looking at intellectual development. In a highly-structured learning climate, student experiences tend to be teacher-selected. A highly-flexible school program will encourage the pursuit of curiosity, more creativity, and increased motivation for diverging experiences.

A flexible climate allows for much physical activity. This refers to not only planned physical education programs but also to the student's freedom to move independently about the building to use school equipment, facilities, and other resources.

To exemplify this flexibility, the school library should be open before and after school as well as during normal school hours. Independent movement from the classroom to the library should be encouraged. Student use of school-owned audio-visual equipment should be common as it affirms to the early adolescent the faith adults have in his sense of responsibility and purpose.

Intellectual Growth

While the major emphasis in most middle school literature is on physical and social changes, mental growth also deserves close attention. By means of intensive studies[2] of children Piaget and others have indicated that mental growth takes place according to well-defined stages. Children in later elementary school are considered in a stage known as concrete operations. It is during the middle school years that students generally make the transition to the third and final stage of intellectual development, according to Piaget,

[2]B. Inhelder and J. Piaget, The Growth of Logical Thinking From Childhood to Adolescence (New York: Basic Books Inc., 1958).

known as the formal operations stage. During this stage the early adolescent begins to show evidence of formal thinking. Accepting this evidence, it is noted that, similar to the physical maturation discussed earlier, the age range is marked by transition from one stage to another. Further, the acceleration of mental maturation is also similar to the acceleration of physical maturation. Transition and acceleration are appropriately used in describing the growth patterns of middle-schoolers.

The Formal Operations Effect

It is likely that most middle-schoolers will move from the concrete operations stage to the formal operations stage. As was discussed in an earlier section some psychologists believe that when an individual passes from one stage to another, be it physical or mental, there is a period of heightened egocentrism, as the person interacts within a new and untested area. "The burst of egocentrism slowly subsides as the child progressively masters the new field . . . "[3] Piaget and his followers have suggested that the principal means of coping with this new challenge is through social interaction with peers. The type of social interaction suggested here is one provided by a classroom climate which permits student

---

[3]J. Flavell, The Developmental Psychology of Jean Piaget (New York: D. Van Nostrand Co., 1963), p. 224.

involvement in program planning, avoids teacher domination of the presentation of ideas, and encourages independent exploratory experiences on the part of the student. These practices are consistent with Bruner's description[4] of the intellectual characteristics of ten-to-fourteen-year-olds, described in an earlier chapter.

The middle school program should be expected to offer a wide range of special interest activities designed both to awaken and deepen the interests of children most of whom are having a first opportunity to participate in school experiences outside a self-contained classroom elementary school program.

The results of the interest inventory, reported in Chapter III, support a school program which emphasizes exploratory experiences. Each middle schooler should have an opportunity to learn enough about his private interests to determine whether to participate for an extended period. In addition to self-responsibility, middle schoolers traditionally have desired to test their interests in art, dance, drama, foreign language, home arts, industrial arts, journalism, music, typing, and various school work projects.

To accommodate these interests schools should provide more opportunities for electives. The electives

---

[4]Bruner, Toward a Theory of Instruction, p. 56.

should be greater in number and offered in shorter modules with fewer prerequisites. A student should be allowed to elect new courses every six to eight weeks. Given the proper motivation he could continue to elect the course, but given a definite lack of interest or fulfillment he should be allowed to explore other opportunities.

Independence and Sequence

In a grade five-to-eight or six-to-eight middle school, most students will enter while still at the concrete operations stage. The change to formal operations will come slowly and individually. It seems reasonable to expect learning experiences in the various disciplines to be arranged in order to accommodate the students who are mentally operating in concrete terms as well as those who are capable of formulating concepts and using abstractions. It further seems logical to construct curricula that allow independent movement through programs ranging from concrete to abstract understandings. Sequentially-devised curricula in all skill subjects will allow for the independent movement of the students through the curricula--an independence necessitated by the wide range to be found in each classroom.

Intellectual Growth and Grouping

The efficacy of ability grouping is a myth that damages the instructional program of countless schools despite the lack of evidence supporting it. Any grouping plan has its strengths and weaknesses, however, middle school educators need to search for a plan suited to the needs, interests, and characteristics (physical, social, and mental) of middle schoolers.

The traditional educational grouping plans have heterosexual class combinations but as was mentioned earlier in this chapter, same-sex arrangements may be used to advantage in the middle school.

Middle School Grouping Procedures

Based on reasons previously discussed, middle schoolers should be grouped on a single-sex basis with as many men as possible teaching boys' classes.

Flexibility should be inherent in any grouping plan. While a student's mental growth may place him well into the formal operations level, physical development and emotional stress may hinder his progress. No grouping plan should be established which would track a student into a group on the basis of mental development. Teams or classes should be formed on a single-sex but otherwise heterogeneous basis. An exception will be noted later regarding physical education.

Most middle schoolers will spend three years in middle school before moving into a high school program. A few exceptional students may spend a lesser amount of time in the organization. A thorough staff evaluation may indicate that one student is exceptionally mature physically, mentally, emotionally, and in interests and associations; this student may be well-placed in a high school organization. Conversely, if these factors indicate immaturity, it may be desirable for a student to spend four years in a middle school environment. Either decision requires a very complete evaluation procedure.

Grouping in Physical Education

It is suggested by all the data regarding the radically different physical growth characteristics, wide variations in sexual maturity, and the emotional stress created by the many physiological changes in early adolescents, that physical education classes should be (1) no larger than regular academic classes, (2) taught by carefully screened and well-motivated instructors, and (3) arranged so that students with the most compatible physical characteristics are grouped together. Conventional physical education classes for early adolescents are two or three times the size of regular classes, supervised in part by student leaders who are physically talented, and used as the overflow for regular classes with high

enrollment. Then too, physical education teachers are rarely given as much planning time as academic teachers and the result is less planning, inadequate evaluation, and little attention given to individual needs. Giving physical education teachers adequate planning time will indicate to the teacher the value of well-planned, well-organized activities.

Grouping Into Teams

No evidence appears which supports "team teaching" as an instructional mode. However, there are certain adjuncts of team teaching which promise advantages to middle school students. Team teaching (student teams of 100 to 120 and teacher teams of four to five teachers) allows students in a large school to quickly build a close relationship with a smaller group of students. Team teaching allows teachers, as they plan together, the flexibility in space, time, and numbers of students that is so desirable. Team teaching allows for long and short periods, large rooms and small ones, large-group instruction and independent study, and above all, a set of teams with the obligation to take a broad view of the prevailing needs of particular children with the aim of molding a unique program.

This paper does not recommend team teaching designed to interrelate the disciplines; it proposes a team teaching arrangement where the team is made up of subject area

specialists, guidance counselors, administrators, and various supporting specialists who will meet occasionally with the team. The basic team might be the English, social studies, physical education, science and math teachers. They would meet regularly to discuss individual and group needs, plan use of space and time, and to provide feedback to each other on the success or failure of different endeavors. A building administrator and counselor should attend at least one weekly meeting. Social workers, psychologists, and diagnosticians should be on call. Other teaching specialists who work with students from more than one team should meet regularly with as many teams as necessary. Team evaluation sessions should include students, as should sessions during which long-range planning takes place.

The emphasis in this type of teaming is on planning and not on the forced and often superficial interweaving of disciplines.

Interests and Team Planning

It has been more or less tacitly assumed that it is a good thing for a student to cultivate interests that enable him to realize his varied potentialities. This does not mean that the more numerous and varied a child's interests the better off he will be. It is not the number and scope of a student's interests but the way

his interests serve his needs, the avenues of life they open.

Even so, the child who lives in an environment which provides an opportunity for the learning of many varied interests will probably be better situated than a student from an environment that makes provision for only a limited range. The more opportunities, the more likely it is that a person will find a way of acquiring interests which are best suited to his particular talents and which will be most serviceable to him.

Team teachers, drawing upon all the resources of the school and armed with data from interest inventories, should be in a better position to make provision in the educational program for a variety of interests in order to account for the fact that middle schoolers differ so markedly in their make-up. A variety of exploratory opportunities is needed not only to enable the children to develop interests in keeping with the kinds and levels of their abilities, but also to enable them to pursue such interests at a pace and with an intensity suited to their temperament.

This proposal has to do with the development and encouragement of interests within a team and is consistent with the exploratory approach to the special subjects.

Grouping and Race

The mass of evidence, reported in part in Chapter II, strongly relates a pupil's achievement to the educational backgrounds and aspirations of the other students in the school. The Negro student is disadvantaged educationally if he is educated in a predominantly Negro school. Despite the qualities of school facilities or the size of classes, it seems apparent that no middle school is going to offer the optimum education to its students if its student composition is largely Negro. This paper proposes that school and civil authorities abandon school district regulations which prevent Negro students from gaining the advantages of a quality education. This could be accomplished by busing students to different schools within a district, busing students across district boundaries, or reorganizing districts in order to provide a better racial balance.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary

It is not enough that middle school students with their unique needs be served either a watered down high school program or simply a more sophisticated elementary curriculum. The investigations conducted to develop the Guidelines for a Middle School Program recommend that ten- to fourteen-year-old students need a program designed specifically for their ages and grade levels.

The intent was not to create either a remedial program for the deficiencies of the elementary curriculum or one to serve as a preparatory program for the high school; rather the program was to stand on its own being primarily concerned with the students at their existing stage of development and capitalizing upon those educational experiences most pertinent to them at their age levels.

The emerging adolescent is in part characterized by an increasing awareness of himself and his own physical and intellectual identity within the school and broader social structure. He seeks answers about his own personal development and his relations to peer groups and others. Students in the middle school seem to have an exceptional

need to understand themsevles and their culture. The heightened interest for self-understanding is induced by the students' own physical, mental, and emotional changes. These are further enhanced by his emerging awareness of a relationship to a larger social structure.

Another reason for considering the middle school years as an independent unit is to focus more effectively on the problem of teacher education. Typically, the middle school teacher is an accident. He has been trained as a high school subject matter specialist or an elementary school generalist. The commitment to and adequate training for a middle school program could be significantly enhanced by a teacher preparation program designed specifically for middle school teachers.

The guidelines attempt to recognize the great diversities among emerging adolescents in the middle school and accept the need to accommodate these differences in the school program. It is not assumed that all students will learn or arrive at understandings by the same path. There is no assumption that identical curriculum materials for all students and uniform modes of instruction will accomplish desirable goals. The guidelines do assume that wide exploration by the individual into areas of curricular interest will be made possible and likely by a flexible school program that allows the changing

interests and attitude patterns of middle schoolers to have an effect upon school offerings.

Physical characteristics, normally not considered in traditional grouping, should not be dismissed. Physical developments create changes in interest and attitude for students and should have deep significance for middle school organization. The guidelines suggest that hetero-sexual class combinations be abaondoned at the middle school level and suggest that same-sex classes be organized to assist the middle schooler in his adjustment to diverse cultural forces, rates of sexual matruation, emotional maturity, physical growth rates, and interests. It is further suggested that males teach boys' classes and females teach girls' classes whenever possible.

Middle schoolers will vary as to their current stage of mental growth. The guidelines propose that the curriculum in the basic skills areas be characterized by sequential experiences ranging from the concrete operational processes to the processes of formal operations. Students of widely varying academic achievement levels will thus be able to work together in the same groups, obviating the need or desire to provide homogeneous groups organized on the basis of academic attainment. Laboratory science classes and individualized math classes will accommodate students with a broad range of intellectual attainments.

The guidelines suggest a form of team teaching which would result in a "school within a school" organization. Teams of teachers would be assigned sets of students, not for the purpose of interrelating disciplines, but to be able to do a more effective job of analyzing individual and group needs, providing flexibility in time, space, numbers of students, and facilities, and to more realistically assure students that they are working with teachers and other professionals concerned and knowledgeable about their needs.

Recommendations

In a very real sense the guidelines described in Chapter IV contain the essential recommendations of this paper. However, there are five closely-related recommendations that deserve recognition.

1. Local boards of education should be discouraged from adopting middle school programs unless they intend to offer a unique educational program. Eliminating the ninth grade from junior high is not reason enough for establishing a middle school. Boards of education should also accept the responsibility to construct new or remodeled plants for middle school programs in order to facilitate putting a flexible middle school philosophy into effect.

2. Middle school programs with diverse electives and adequate individual and group planning time will be

a more costly program than will the self-contained elementary programs that provide the additional students. Boards of education will need to appropriate more money to cover the increased cost of a middle school operation. State departments of education and school board associations should urge that state aid to schools recognize the increased cost factor and alter state reimbursement formulas to help meet increased costs.

3. State certification standards should be altered to recognize the need for teachers and administrators who are trained specifically for the middle school.

4. School systems that continue a graded program out of choice or necessity should consider an organizational pattern with the elementary grades ranging from prekindergarten to grade five, a middle school of grades six to eight, and a nine through twelve high school.

5. School districts should adopt middle school programs only after a thorough community study of existing programs. The transition to middle school should not be implemented until the professional staff and the community accepts the commitment to a middle school program with clearly defined goals. Middle school will not save money and they will offer a more flexible, exploratory program that corresponds to students' maturational patterns. Parent understanding of these differences is vital to the success of a new program.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Alexander, W. M., et al. The Emergent Middle School. New York: Holt, Rinehart, and Winston, 1968.

Almy, Millie. Ways of Studying Children. New York: Bureau of Publications, Teachers College, Columbia, 1959.

Ambrose, E., and Miel, A. Children's Social Learning. Washington: ASCD-NEA, 1958.

Bruner, Jerome S. The Process of Education. New York: Random House, 1960.

_____. Toward a Theory of Instruction. Cambridge, Mass.: Belknap Press, 1966.

Cole, Luella, and Hall, Irma N. Psychology of Adolescence. New York: Holt, Rinehart and Winston, 1964.

Coleman, James S., et al. Equality of Educational Opportunity. Washington, D.C.: Government Printing Office, U. S. Office of Education Survey, 1966.

Conant, James B. Recommendations for Education in the Junior High Years. Princeton, New Jersey: Educational Testing Service, 1960.

Corwin, R. C. A Sociology of Education. New York: Appleton-Century Crofts, 1965.

Eichhorn, Donald H. The Middle School. New York: Center for Applied Research in Education, Inc., 1966.

English, O. Spurgeon, and Pearson, Gerald H. J. Emotional Problems of Living. New York: W. W. Norton and Company, 1955.

Flavell, J. The Developmental Psychology of Jean Piaget. New York: D. Van Nostrand Co., 1963.

Frank, M., and Frank, L. Your Adolescent at Home and in School. New York: The Viking Press, 1956.

Gagné, R. M. The Conditions of Learning. New York: Holt, Rinehart, and Winston, 1965.

Gendell, M. A Sociological Almanac for the United States. New York: Scribners, 1964.

Gesell, A.; Ilg, Frances I.; and Ames, L. B. The Years from Ten to Sixteen. New York: Harper and Row, 1956.

Gesell, Arnold, and Ilg, Frances L. The Child From Five to Ten. New York: Harper and Brothers Publishing, 1946.

Goodlad, John I, and Anderson, Robert H. The Nongraded Elementary School. New York: Harcourt, Brace and World, Inc., 1963.

Grooms, M. Ann. Perspectives on the Middle School. Columbus: Charles E. Merrill Books, Inc., 1967.

Guilford, J. P. "Three Faces of Intellect." The Adolescent. Edited by J. Seidman. New York: Holt, Rinehart and Winston, 1960.

Holt, John. How Children Fail. New York: Pitman Publishing Co., 1964.

Horton, P. B., and Hunt, C. L. Sociology. New York: McGraw-Hill, 1964.

Hutt, Max L., and Gibby, Robert G. The Child. Boston: Allyn and Bacon, Inc., 1959.

Inhelder, B., and Piaget, J. The Growth of Logical Thinking from Childhood to Adolescence. New York: Basic Books, Inc., 1958.

Jersild, Arthur T. In Search of Self. New York: Bureau of Publications, Teachers College, Columbia, 1952.

_____. The Psychology of Adolescence. New York: The MacMillan Company, 1963.

Jersild, Arthur T., and Tasch, Ruth J. Children's Interests. New York: Bureau of Publications, Teachers College, Columbia University, 1949.

Josselyn, Irene M. The Adolescent and His World. New York: Family Services Association of America, 1952.

Kimball, Solon T., and McClellan, J. E. Education and the New America. New York: Random House, 1962.

Kinsey, A. C., et al. Sexual Behavior in the Human Male. Philadelphia: Saunders, 1948.

_____. Sexual Behavior in the Human Female. Philadelphia: Saunders, 1953.

Lawrence, M., and Lawrence, F. K. Your Adolescent at Home and at School. New York: The Viking Press, 1956.

_____. Learning and Teaching in Atlanta Public Schools. Princeton: Educational Testing Service, 1956.

Pettigrew, T. F. Social-Psychological Considerations of Racially-Balanced Schools. A Report of the Advisory Committee on Racial Imbalance and Education. Boston, Mass.: State Board of Education, April, 1965.

Piaget, Jean. The Psychology of Intelligence. London: Routledge and Kegan Paul, 1950.

Popper, Samuel H. The American Middle School. Waltham, Mass.: Blaisdell Publishing Company, 1967.

Redl, Fritz. When We Deal with Children. New York: The Free Press, 1967.

Schramm, W.; Lyle, J.; and Parker, E. B. Television in the Lives of Our Children. Stanford, Calif.: Stanford University Press, 1961.

Seagoe, M. V. A Teacher's Guide to the Learning Process. Dubuque: William C. Brown Co., 1956.

Sears, R. R.; Maccoby, E. E.; and Leving, H. Patterns of Child Rearing. Evanston: Row-Peterson, 1957.

Smart, M. S., and Smart, R. C. CHILDREN, Development and Relationships. New York: MacMillan, 1967.

Tanner, J. M. Growth and Adolescence. Oxford: Blackwell Scientific Publications, 1963.

U. S. Commission on Civil Rights. Racial Isolation in the Public Schools. Washington, D.C.: Government Printing Office, 1967.

Weinberg, M. Research on School Desegregation. Chicago: Integrated Education Associates, 1965.

Articles and Periodicals

Amatora, S. M. "Home Interests in Early Adolescence." Genetic Psychology Monographs, Vol. 65 (1962), 157-175.

Barbe, W. B., and Waterhouse, T. S. "An Experimental Program in Reading." Elementary English, Vol. 33 (1956), 102-104.

Bauer, F. C. "Fact and Folklore About Adolescents." Bulletin of the NASSP, Vol. 49:299 (March, 1965), 174.

Bayley, Nancy. "Mental Growth and Development." The Adolescent. Edited by J. Seidman. New York: Holt, Rinehart and Winston, 1960.

Borg, William B. "Ability Grouping in the Public Schools." Madison, Wisconsin: Dembar Education Research Services, Inc., 1966.

Borrowman, M. L. "Traditional Values and the Shaping of American Education." Social Forces Influencing American Education. 60th Yearbook of the NSSE. Edited by Nelson B. Henry. Chicago: University of Chicago Press, 1961.

Boyer, W. H., and Walsh, P. "Are Children Born Unequal/" Saturday Review, October 19, 1968, p. 63.

Breidenstine, A. G. "The Education of Pupils in Differentiated and Undifferentiated Groups." Journal of Experimental Psychology, Vol. 5 (September, 1936), 91-135.

Brown vs. Board of Education. 347 U. S. 483 (1954). As quoted by Kenneth Clark, "Educational Stimulation of Racially Disadvantaged Children." Education in Depressed Areas. Edited by A. H. Passow. New York: Teachers College, Columbia University, 1963.

Budde, Ray. "(5)-6-7-8, The Middle School of the Future." The Michigan Journal of Secondary Education, 6:1 (Fall, 1964), 43.

Coleman, James S. "Social Change: Impact on the Adolescent." Bulletin of the NAASP, Vol. 3 (October, 1966), 8.

Cuff, William A. "Middle Schools on the March." The Bulletin of the National Association of Secondary School Principals, 51 (Feb., 1967), 82-86.

Espenachade, Anna, and Meleney, H. E. "Motor Performance of Boys and Girls." The Research Quarterly of the AHPER, Vol. 32 (May, 1961), 187.

Faust, M. S. "Developmental Maturity as a Detriment in Prestige of Adolescent Girls." Child Development, Vol. 31 (1960), 182-183.

Fischer, John H. "Race and Reconciliation: The Role of the School." Daedalus, Vol 26 (Winter, 1966), 95.

Fox, M. "Religion and the Public Schools--A Philosopher's Analysis." Theory Into Practice, Vol 4 (February, 1965), 42.

Gow, J. S. "Economic, Social and Political Forces." The Changing American School. 65th Yearbook of the NSSE, Part II. Edited by John Goodlad. Chicago: University of Chicago Press, 1966.

Grambs, G. "A Guide to School Integration." Public Affairs Pamphlet No. 255.

Grooms, Ann. "The Middle School and Other Innovations." The Bulletin of the NAASP, Some Papers from the 51st Annual Convention, 51:319 (May, 1967), 158.

Hartill, R. M. "Homogeneous Grouping As a Policy in the Elementary Schools of New York City." Contributions to Education #690, Teachers College, Columbia, 1937.

Hathaway, M. L. "Heights and Weights of Children in the United States." Washington, D.C.: U.S. Department of Agriculture, 1957.

Hoover, Kenneth. "An Experiment on Grouping Within the Classroom." School Review, Vol. 48 (May, 1940), 355-362.

Jones, Mary C. "The Later Careers of Boys Who Were Early- or Late-Maturing." Child Development, Vol. 28 (March, 1957), 113-128.

Jones, March C., and Bayley, N. "Physical Maturing Among Boys as Related to Behavior." Journal of Educational Psychology, Vol 41 (1950), 121-148.

Kimball, Solon T. "Cultural Influences Shaping the Role of the Child." National Elementary Principal, Vol. 40 (September, 1961), 28-32.

Luchins, A. S., and Luchins, E. H. "Children's Attitudes Toward Homogeneous Grouping." Pedagogical Seminary, Vol. 72 (1948), 13-19.

Madden, W. "Education for Religious Quality in Experience." Intellectual Foundations of American Education. Edited by H. H. Carter. New York: Pitman, 1965.

Mead, Margaret. "The Concemporary Family as an Anthropologist Sees it." The Adolescent. Edited by J. M. Seidman. New York: Holt, Rinehart and Winston, 1960.

_____. "Early Adolescence in the United States." A chapter from "The Changing Junior High School Student." Bulletin of NASSP, 49:300 (April, 1965), 5-10.

Meredith, H. V. "Stature and Weight of Children of the U. S. A. with Reference to the Influence of Racial, Regional, Socio-economic and Secular Factors." American Journal of Diseases of Childhood, Vol. 57 (November, 1941), 932.

Mills, C. A. "Temperature Influence Over Human Growth and Development." Human Biology, Vol. 22 (February, 1950), 71.

Mussen, V. H., and Jones, Mary C. "Self-Conceptions, Motivations, and Interpersonal Attitudes of Late-Maturing and Early Maturing Boys." Child Development, Vol. 28, No. 2 (1957), 243-265.

Nathanson, I.; Towne, L.; and Aub, J. C. "Urinary Sex Hormone Studies." Physique, Personality, and Scholarship. Edited by R. N. Sanford. A monograph of the Society for Research in Child Development, Vol. 8 (1943), 70-81.

Nathanson, I.; Towne, L.; and Aub, J. C. "What Type of Middle School Organization Provides the Greatest Opportunity for the Development of the Adolescent?" Improvement in Secondary Education Through Studies. Sixteenth Yearbook, Penn. Branch National Association of Secondary School Principals, 1960.

Orlans, H. "Educational and Scientific Institutions." Daedalus, Vol. 96 (Summer, 1967), 830.

Pettigrew, T. "The Case for School Integration." Decentralization and Racial Integration. Edited by C. F. Johnson and M. D. Usdan. New York: Teachers College, Columbia, 1968).

Purdue Opinion Panel. "Youth Looks at Politics, College Education, Jobs and Family." Report of Pole No. 60. Lafayette, Ind: Division of Educational Reference, Purdue, 1960.

Regan, Eugene E. "The Junior High School is Dead." The Clearing House, 42:3 (November, 1967), 151.

Rosenthal, R., and Jacobson, L. "Teachers' Expectancies: Determinant of Pupil I. Q. Gains." Psychological Reports, Vol. 19 (1966), 115-118.

Schrag, Peter. "Education's Romantic Critics." Saturday Review, February 18, 1968, p. 80.

Shannon, J. R. "Homogeneous Grouping and Pupil Attention in Junior High Schools." Teachers College Journal, Vol. 12 (1941), 49-57.

Simpson, E. L. "The Individual in the Group." Phi Delta Kappan, 50:6 (February, 1969), 322-323.

Sizer, T. F. "Reform Movement on Panacea?" Saturday Review, June 19, 1965, pp. 52-53, 72.

Sollenberger, R. I. "Some Relationships Between the Urinary Excretion of Male Hormones By Maturing Boys and Girls and Their Expressed Interests and Attitudes." Journal of Psychology, Vol. 9 (1940), 179-189.

Stone, C. P., and Barker, R. G. "The Attitudes and Interests of Premenarcheal and Postmenarcheal Girls." Journal of Centeid Psychology, Vol. 54 (1939), 61-62.

Taylor, Harold. "National Goals and International Goals." Phi Delta Kappan, Vol. 47 (December, 1965), 175-179.

Van Dalen, D. B. "Differential Analysis of the Plan of Adolescent Boys." Journal of Educational Research, Vol. 41 (1947), 204-213.

Waller, L. "Our Ultimate Goal." Social Education, 31:8 (December, 1967), 702.

Wattenberg, William W. "The Junior High--A Psychologist's View." The Bulletin of the NAASP, Vol. 49: 300 (April, 1965), 34.

Wey, H. "Desegregation, It Works." Phi Delta Kappan, Vol. 25:9 (May, 1964), 382-387.

Unpublished Materials

Eichhorn, Donald H. "New Knowledge of the 10 Through 13 Year-Olds." Paper presented at the Conference on the Middle School Idea, Nov. 11, 1967, at the College of Education, University of Toledo, p. 1.

Vars, G. F. "New Knowledge of the Learner and His Cultural Milieu: Implications for Schooling in the Middle Years." Paper presented at the 11th Annual Fall Conference of the College of Education, University of Toledo, Toledo, Ohio, November 11, 1967, p. 1.

Yamamoto, K. "America in Which Children of the Middle Years Will Live: An Education Perspective." A paper presented at the 1967 Fall Conference on "The Middle School Idea," at the College of Education, University of Toledo, Ohio, November 11, 1967, p. 15.

_____. "Children Under Pressure." A paper presented at the 22nd Annual Conference of the ASCP, Dallas, Texas, March, 1967.

APPENDICES

APPENDIX A

THE INTEREST INVENTORY

Student's Name_____ School_____

Age____ Grade_____ Date_____ Boy_____ Girl_____

Teachers's Name_____

Students Do Not Write In This Box

A_____
B_____
C_____
D_____
E_____

INSTRUCTIONS TO THE STUDENT: Your help is needed in getting information from students in different parts of the country. Feel free to answer as you wish. Don't worry about spelling. If there is any question you don't wish to answer, leave the space blank. Use pen or pencil.

1. If I had three wishes I would ask for:

   A.

   B.

   C.

2. At school I like to learn more about:

3. I don't care to study about:

4. I like best at school:

5. I like least at school:

6. I like best outside school (when I'm not in school):

7. When I'm an adult I want to be:

8. At school I like to work with:
   A. Just students my own age _____
   B. Students of all ages _____
   C. Just students in my own grade _____
   D. Any students as long as I'm learning _____

9. In sports and games I want to be with:
   A. Just students my own age _____
   B. Students of all ages _____
   C. Just students in my own grade _____
   D. Any students as long as they know what they are doing _____

10. At school I like to work with:
   A. Just one teacher _____
   B. Many teachers _____
   C. Any number of teachers, as long as I learn _____

APPENDIX B

THE INTEREST INVENTORY

INSTRUCTIONS FOR TEACHERS

This inventory is part of a study of the influence of pupil interests on educational programs. Your help in gathering data for the study will be greatly appreciated.

The questions have been structured to avoid embarrassment; we feel there will be few objections by the students. We want them to answer candidly without struggling to give the "right" answer.

Code for box on the inventory:

A. _____ Negro
B. _____ Caucasian
C. _____ Oriental
D. _____ Jewish
E. _____Gentile

Teachers are asked to check two places on each inventory to indicate race and religion. For the purposes of this study we will consider any student a Gentile who is not Jewish.

It would be helpful in analyzing the data if you could answer the following questions and return this sheet with your completed inventories:

1. Would you describe your classroom as: (Check as many as are appropriate)

   A. Self-contained _____

   B. Modified self-contained _____ (assisted by some specialists)

   C. Departmentalized _____ (chiefly taught by specialists)

D. Cooperatively taught _____ (two teachers exchanging some classes)

E. Team taught _____ (a team of teachers assigned to one group of students)

Thank you for your cooperation. You will be given instructions concerning the return of these inventories by the person providing you with them.

APPENDIX C

CATEGORIES USED IN ANALYSIS OF CHILDRENS' WISHES, LIKES AND DISLIKES

1. Material Things: specific objects, animals, specific amounts of money, houses, toys, vehicle, pets, equipment, clothes.

2. Sports and Play: recess time, gym activities, spring, summer and winter sports, outdoor activities, indoor games, watching and playing games; camping, trips to parks and beaches.

3. People: positive and negative feelings about teachers, parents, relatives and acquaintances, identification with other people, companionship with parents and relatives, wishes for increased family size, being with the family, being separated from the family and babysitting.

4. School Subjects: positive and negative feelings about specific subjects and activities related to those subjects, grades, and homework related to specific subjects.

5. Social Activities: parties, dances, clubs, and youth organizations of a variety of types.

6. Love, Friendship: general positive and negative feelings about the opposite sex, getting a date, asking for a date, getting and keeping friends, giving presents or

receiving presents from friends, getting married, being loved by any relative or non-relative, being helped by a friend, how to make a friend, and how to be popular.

7. Wisdom: to be bright, smart, or to learn, to grow in understanding of self and others, know all about people, psychology, and the human mind.

8. Self-Improvement: intellectual and educational self-improvement, finish school, musical success, go to college, graduate from college, develop a better personality, have positive religious experiences, develop vocational skills, and being recognized as improved in various abilities.

9. Miscellaneous School: positive or negative views of going to school, when school starts, homework, daily work, changes in school program, relief from boredom of school, dropping out, wish for end of school, general wishes about easier grading or fairer grading, rules and restraints, buses, tests, cafeterias, and general tasks related to school work.

10. Freedom: general and specific wishes about freedom for individuals and groups.

11. Benefits to Self: good health, good luck, success in life, prosperous future, good paying job, physical well-being, recover from illness, and immunity to pain.

12. Peace: peace in Vietnam, peace all over the world or forever, peace in the cities and schools and colleges, end to war, and end to violence.

13. Happiness: happy days, happy future, wishes for "Happiness," happy summer, vacation and holidays.

14. Equality: equal rights, privileges and responsibilities for all regardless of race, regardless of nationality, or family wealth, equality by law, and fair play.

15. Miscellaneous Benefits to Others: good health to friends and relatives; friends and relatives to get well, philanthropy, no more sickness, end to crippling diseases, no more poverty or hunger.

16. Everything-Nothing: no more questionnaires, more wishes, all the money in the world, supernatural powers, and other impossible requests.