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Educating Children in Grades 4, 5 & 6

FOUR, FIVE and SIX

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Contents

Foreword

SINCE THE PUBLICATION of the bulletin, *Educating Children in Grades Seven and Eight* (Bulletin 1954, No. 10), by the Elementary Schools Section of the Office of Education, many requests have come to the Office for a comparable treatment of the education of children in grades 4, 5, and 6.

The scarcity of research and of comprehensive treatment of characteristics of children ages 9 through 11, frequently mentioned in the requests, was a reason for pulling together available research and for reporting some ways in which schools are attempting to meet the educational needs of these children. This Bulletin is a reply to the requests.

The study reported here was begun in 1955 by a group of five staff members in the Elementary Schools Section, U. S. Office of Education. The purpose was to find out and report (1) what research says about children of 9, 10, and 11, (2) what educators say about *today's* children in grades 4, 5, and 6, and (3) some good educational practices for these children as defined by local educators. It was decided that research would be studied and summarized; that small conferences (of about 35 members each, including supervisors, principals, and teachers) would be held in various parts of the United States, that selected schools and classrooms would be visited to observe educational processes, and that the results of the study and observation would be made available in bulletin form.

Subsequently, 40 small conferences were held at places selected for their accessibility to travelers. Letters of invitation were sent by the Elementary Schools Section to 8 to 10 local superintendents in localities within a radius of approximately 100 miles from the place where the conference was scheduled, irrespective of State boundary lines. The letters invited each superintendent to send to the conference a team consisting of an elementary supervisor, a principal, and a teacher from the 4th, 5th, and 6th grades to dis-

cuss (1) characteristics of children in these grades as the team members saw them, and (2) good educational programs in grades 4, 5, and 6. After the first 2 conferences, the teacher representation of a local team was increased to 2. Upon receiving the names of proposed conferees, the Office of Education wrote each a letter describing the conference.

When a conference opened, the Office staff member presided, and with the help of State and local hosts and hostesses, tried to make each person feel comfortable. The staff member again described the conference and, as soon as all questions were cleared away, invited conferees to express their minds freely.

The staff member then began to record the discussion. Usually a local volunteer assisted with the recording so that remarks could be amplified or verified. In most conferences, approximately 2 to 2½ hours were spent on each of the major questions. The recordings were later classified in the Office of Education and entered upon cards for use in compiling the report.

Schools to be visited were selected in various ways. Whenever possible, the Elementary Schools Section of the Office of Education wrote to the director of elementary education in the State department of education, asking him to name some school system which might be visited in search of good practices. Letters to local superintendents followed, asking permission to visit schools where the observer might see "good practices" in grades 4, 5, and 6. A member of the State department of education was informed of the planned visit. In all States, members of either the State or the local department of education went out of their way to welcome observers and facilitate the visits.

An effort was made to hold a conference and visit schools in every State. Although this was not possible, a wide variety of communities and schools is represented. Forty 1-day conferences were held, including approximately 1,300 persons from 415 school systems in 68 communities of 35 States and the District of Columbia. Large and small urban schools, consolidated and rural schools, and schools made up of different racial and socioeconomic groups were represented.

The letters asking permission to visit stated that the purpose was "to find practices which local school people consider to be good for children." During the final stages of the study, because of current popular interest in science, mathematics, and education of "gifted" children, several cities were requested to permit the visitor "to see science and mathematics programs and education of the 'gifted' children."

Practices known to be used only occasionally, unless typical, were not included. No visit at any school exceeded a day; hence, no program was observed in its entirety. The principal or the supervisor helped decide what would make the day most profitable. Usually observations were supplemented by short conferences with administrators, supervisors, and teachers, and sometimes with children and parents.

The present bulletin, then, is the result of a survey of research, conferences, observations, and interviews. Little attempt has been made by the writers to evaluate the practices reported. It may be assumed, however, that evaluation was made locally by the superintendent when he selected the team members to participate in conferences and the schools to be visited. It is now left to the reader to make his own evaluation of the immediate or long-range value of any practice in his own community in meeting the needs of children ages 9 through 11 to achieve a steady growth toward maturity.

The Elementary Schools Section of the Office of Education expresses appreciation to the following for their cooperation in making this study possible:

educators in State departments of education

superintendents of schools and their staffs in city and county school units

supervisors, principals, and class room teachers who participated in conferences

classroom teachers who helped observers gain insight into elements of good practices

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members of colleges and universities who helped the writers understand some of the research currently in progress

all those who contributed so willingly of time, curriculum materials, and pictures to make this report worthwhile

children, without whom the study would have no value.

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PART I

Part One

Characteristics and Needs of Children in Grades Four, Five, and Six

Introduction

PART ONE is intended to help educators look at children in grades 4, 5, and 6, focusing upon their characteristics and needs and translating these into educational goals. Chapter I brings together much of the significant research related to physical, social-emotional, and intellectual characteristics of these children. Chapter II analyzes the contributions of many teachers, principals, and administrators whose work keeps them in touch with today's children. Chapter III reports implications for educational goals proposed by some researchers in human development and by the writers of this bulletin.

Chapter I

What Research Says About Children

RESEARCH INFORMATION about children in grades 4, 5, and 6 is not abundant. Study of human growth and development has been concentrated more on infancy, early childhood, and adolescence. Only relatively recently has the school-age child, and particularly the "older child" of 9 to 11 or 12, received much attention by researchers. This scarcity of research may be taken as a tribute to children of these ages, for research about children is, in the main, in response to concern about them. The fact may be that this age group has not provoked deep concern in adults. Research workers earlier referred to the period as one of "latency." Educators in the present study almost unanimously spoke with praise about the characteristics of children of these ages.

A Preview

The characteristics of children of ages 9 through 11 most often pointed out in the research studies reviewed and by educators in conferences are the following:

Physical Characteristics

Children are active and want to be on the move—in play, exploration, and adventure.

Physical growth is slow and health is good. More mature children (especially girls) may advance into the rapid growing phase of prepubescence while in late grade 5 or in grade 6.

They want to make, do, perform, try out their own powers.

Social-emotional Characteristics

Children are drawing away from adults, becoming more independent in ideas and in activities.

They are turning more and more to peers for companionship and for approved ways of living.

They need the reassurance of adults (parents and teachers especially) and of peers that they are well understood and accepted, and that they are growing up in approved ways.

They need to know the limits of tolerable behavior. They accept limits better if they help determine them.

They have many fears and worries: About divided loyalties; sickness of parents; rejection by parents; indefiniteness or inconsistency in what is expected of them; irregular circumstances at home, such as quarreling, broken homes, father out of work, mother not at home; and many other things.

Competition is to many a threat to well-being.

Characteristic phrases used to describe these children are:

cooperative, friendly, helpful
frank and honest (but not yet tactful)
having a sense of humor and fairness
fearing ridicule and rejection
liking recognition and responsibility
liking approval and praise
sensitive to the needs of others
quickly sympathetic and responsive
desiring to grow up.

Intellectual Characteristics

Children are alert and interested in everything in the environment. They want to learn.

Interests turn from the fanciful to reality seeking.

Attention span is often short and fleeting, but varies with the individual and the attraction of the interest.

The quality of thinking improves rapidly, especially as to concrete situations in which the child is himself involved.

Among mental abilities which increase are those of sorting, classifying, understanding cause and effect, understanding processes, seeing details, forming concepts, and solving simple problems.

Concepts of *time, relationships,* and *abstract terms* such as fairness, honesty, loyalty, are not well understood. Application is likely to be in a specific situation, but not transferred from one situation to another.

Mature children in grade six grope to clarify abstract concepts.

Value judgments, such as right, wrong, good, and bad, are "known" quantities in grade 4; by the time children are in grade 6, they are less sure and more tolerant.

Children Are Similar And Different

Recent research highlights and reconfirms the characteristics and needs which have been believed to underlie the good growth of human beings from birth to adulthood. Some of the findings come

from studies of how human beings grow and develop; some from studies of the needs of children in trouble; some from studies of human behavior; and some from studies of how and what human beings learn.

From studies of how human beings grow and develop (12, 13, 20)[1] we learn that:

Children are both similar and different.

Each individual grows according to his own time schedule and in his own style.

Growth takes time; it can be encouraged but not forced. Both nature and nurture play a part.

Growth of abilities in the same individual often varies.

Growth is continuous, following an orderly sequence in each individual.

We learn that certain conditions in the environment encourage the good growth of human beings. According to Frank (10), these are:

conditions which support physical well-being and stimulate growth—food, warmth, air, light, activity and rest, and safety.

conditions which support emotional well-being: a sense of security and a sense of worth or self-respect.

conditions which lead to increased ability to cope independently with with life situations.

Studies of children in trouble reinforce the findings that certain identifiable conditions nurture good growth. Pointed out is the need for:

reliable, responsible love or affection for those adults on whom the child depends in order that a sense of security, worth, and responsibility may be developed.

consistency in guidance among adults who are important in the child's life in order that stability and responsibility may be fostered.

happiness in experiences especially at home and at school.

skills through which children may meet successes in life such as making friends and in gaining recognition for one's worth.

Raths (65, 117) has identified eight emotional needs of human beings and suggests how the school may help children satisfy them. These needs are the following:

the need for belonging	the need to be free from fear
the need for achievement	the need to be relatively free from guilt
the need for economic security	the need for self-respect
the need for love and affection	the need for self-understanding

[1] Numbers in parenthesis refer to items in the bibliography; pages are also indicated where helpful, as (14, p. 4).

Public Schools, Ontario, Calif.

Children want to know, and a good school library helps them find out.

Studies on *how human beings of any age learn* have emphasized the intimacy of learning: That each individual learns from his present vantage spot to the next attainable "spot" or goal. There can be no gaps; new learning is related to the present foundation. Nor is there any such thing as mass learning for the very process is uniquely individual. What may be learned at any time by any child is conditioned largely by what he has already learned at home, at school—anywhere; and by the functional usefulness of the "new material" to him as an individual—whether the learnings are feeling tones, social tones and overtones, or ideas or ways of thinking (53). More often, the learnings are not so separated but are, rather inseparably intermingled: Experienced, felt, thought, weighed for their usefulness, accepted or discarded, all in the same instance.

Interest is known to be the key to learning: The kinds of interests actively pursued may be taken as crude indicators of approximate point of development that an individual has reached in his path toward maturity. Broadening of interests and follow-through in pursuing them depends largely on environmental fac-

tors: Availability of motivating experiences and opportunities for exploration, guidance, and, highly important, the kind of interpersonal relations that will favor following the interests (16, 54).

Some Characteristics Belong Particularly To Children, 9–11

Research has revealed some information about the characteristics, needs, and behaviors which are more or less unique in children ages 9-11.

A Period of Activity

Earlier research workers, basing their conclusions largely on what was known about physical growth, characterized the period as one of "latency." More recently, Schoeppe and Havighurst have questioned this, stating that " . . . findings suggest rather forcefully that the so-called 'latency' period may be a latency period only in physiological development and that it is a critical, extremely important period in social and personality development." (14). Havighurst reports that he has found three distinct areas of individual activity or (growth) thrusts at this time: (1) A physical thrust into the world of games and work requiring neuromuscular skills; (2) a thrust out of the home and into the peer group; and (3) a mental thrust into the world of adult concepts, logic, symbolism, and communication.

Havighurst and others associated with him have identified "tasks" which children in our society seem impelled, by their own natures and the demands of the society, to accomplish. "These inner and outer forces contrive to set for the individual a series of developmental tasks which must be mastered if he is to be a successful human being." (14, p. 4). The tasks of middle childhood, as this group sees them, are:

Learning physical skills for ordinary games
Building wholesome attitudes toward oneself as a growing organism
Learning to get along with age mates
Learning an appropriate masculine or feminine social role
Developing fundamental skills in reading, writing, and calculating
Developing concepts necessary for everyday living
Developing conscience, morality, and a scale of values
Achieving personal independence
Developing attitudes toward social groups and institutions (14, p. 25–41).

Physical Growth: Slow for Many, Fast for Some

Increase in height and weight are the most readily observable evidences of physical growth. That growth patterns differ among children is evident in the assorted sizes seen in most classrooms of the United States.

In describing children of grades 4, 5, and 6, Blair and Burton (6) say:

> It is known that during the period under consideration physical and organic growth is stable. The years of relatively least growth in height are from 9 to 10 years for girls and from 10 to 11 years for boys. Changes are slow and gradual in all general proportions. The yearly growth increments are the least of all growth periods until maturity . . . it is a period of slow growth when compared with the years just preceding it and the years to follow with the exception of a small group of early "maturers."

All children want to grow from the "little" to the "big." The patience of many is tried in grades 4, 5, and 6, when increases in size seem to come so slowly. For some, however, great gains are made, especially in grade 6.

The differences in size of children who are approximately the same chronological age present a dramatic picture. Although most of the research studies on physical growth were examined, only one will be cited here. It presents a composite of the results of several studies.

Martin (33) analyzed the findings of 12 studies on the growth and development and the anthropometric measurements of children conducted during the last quarter century. He organized the data on body measurements into ready reference tables which show the mean dimensions of boys and girls for each age from 4 to 17 years and the variability and the range of each measurement for each of these ages.

A few of the many interesting findings are presented here:

Among 9-year-olds—

> The heaviest boy (134 pounds) weighed 94.4 pounds more than the lightest boy (39.6 pounds). Mean weight was 64.4 pounds. About two-thirds of the boys weighed approximately 55 to 74 pounds.
>
> The heaviest girl (119 pounds) weighed 84 pounds more than the lightest girl (35 pounds). Mean weight was 63 pounds. About two-thirds of the girls weighed approximately 52 to 74 pounds.

The tallest boy (59.5 inches) stood 12.6 inches higher than the shortest boy (46.9 inches). Mean standing height was 52.4 inches. About two-thirds of the boys were approximately 50 to 55 inches tall.

The tallest girl (60.3 inches) stood 14.7 inches higher than the shortest girl (45.6 inches). Mean standing height was 52 inches. About two-thirds of the girls were approximately 50 to 54 inches tall.

Among 10-year olds—

The heaviest boy (129 pounds) weighed 85 pounds more than the lightest boy (44 pounds). Mean weight was 70.7 pounds. About two-thirds of the boys weighed approximately 59 to 82 pounds.

The heaviest girl (154 pounds) weighed 114 pounds more than the lightest girl (40 pounds). Mean weight was 70.3 pounds. About two-thirds of the girls weighed approximately 57 to 84 pounds.

The tallest boy (60.9 inches) stood 12.9 inches higher than the shortest boy (48 inches). Mean height was 54.3 inches. About two-thirds of the boys were approximately 52 to 57 inches tall.

The tallest girl (62.7 inches) stood 15.3 inches higher than the shortest girl (47.4 inches). Mean height was 54.2 inches. About two-thirds of the girls were approximately 52 to 57 inches tall.

Among 11-year-olds—

The heaviest boy (169 pounds) weighed 124 pounds more than the lightest boy (45 pounds). Mean weight was 77.6 pounds. About two-thirds of the boys weighed approximately 64 to 95 pounds.

The heaviest girl (209 pounds) weighed 164 pounds more than the lightest girl (45 pounds). Mean weight was 79 pounds. About two-thirds of the girls weighed approximately 64 to 95 pounds.

The tallest boy (65.2 inches) stood 16.2 inches higher than the shortest boy (49 inches). Mean height was 56.2. About two-thirds of the boys were approximately 54 to 59 inches tall.

The tallest girl (64.8 inches) stood 15.7 inches higher than the shortest girl (49.1 inches). Mean height was 56.5 inches. About two-thirds of the girls were approximately 54 to 59 inches tall.

Undoubtedly, some of the slow-maturing children, especially boys, worry about their future growth. Richey (40) indicates that:

> (1) girls maturing before age 13 are, as a group, heavier at each age from 6 to 17 years than later maturing girls; (2) boys who attain puberty (the appearance of auxiliary hair employed as a criterion) before their 14th birthday are heavier at all ages than slower maturing boys; and (3) as a rule, the faster maturing boys and girls are taller than the slower maturing at all ages before the approximation of adult stature by the groups latest to mature . . . there are no significant differences in heights of the different maturing groups of girls after age 15 nor in the heights of the different male groups after age 17.

Breckenridge and Vincent (7) point out that later maturing children tend to catch up eventually with their faster developing

peers. They go on to say that this may be a comforting fact to a child who is growing slowly and also to his parents and teachers.

Children in the middle grades need to be helped to understand that although growth toward maturity is orderly, it is uneven. Krogman's (32) statement on growth, when explained to children, should help them develop deeper understandings:

> "Normal" or "average" growth shows considerable individual variations, but with few exceptions, the variations follow an orderly progress; there is a range which we have learned to expect. Growth is not a narrow path; it is, rather, a broad highway. We do not so much stray from the path of growth as we meander along the highway of growth.

There is evidence to support the belief that children today are taller and heavier than those of a half-century ago (33, p. 1-11). Despite this, some children, mostly boys, now in grades 4, 5, and 6, will become adults of smaller stature than they want to be. Some will become taller than they anticipate and many considerably taller than their fathers. It must be remembered that the growth pattern of each child is genetic; i. e., familial; and that the unfolding, the realization of that pattern, is conditioned by the environmental complex (32).

Health is Good and Need for Physical Activity is Great

Most children in grades 4, 5, and 6 are relatively freer from disease than at any other growth period (6). Their appetities are good. Some of the overweight discuss dieting, but few reduce their intake of food.

Havighurst (14) lists learning physical skills necessary for ordinary games as a development task. He says:

> . . . middle-grade children need opportunities to learn the physical skills that are necessary for the games and physical activities that are highly valued in childhood—such skills as throwing and catching, kicking, tumbling, swimming, and handling simple tools. Boys are expected to learn these skills to a higher degree than girls. A girl can do rather poorly on them and still hold status in the group, while a boy who does poorly is called a "sissy" and loses status. Boys of all social classes are expected to acquire physical skills.

Gesell (12) says:

> . . . a 9-year-old wants to do endlessly what he wants and enjoys doing. Baseball, bicycling, roller and ice skating, swimming, sliding, skiing, and coasting are enjoyed by both sexes. Nine is setting his mind to the task of improving his skills but he does not work with the ease and facility that he will at ten. Boys enjoy roughhousing.

"Play," says Gesell (13):

> . . . is paramount in the lives of many 10-year-olds. School and routines are even considered interruptions of the more important life of play. Ten

is happily busy in whatever he does and he now has the skill, stamina, and rebound needed in gross motor activities . . . boys like to organize for baseball and, even include the tomboy girls to make up a sizable team. Bicycling is more often enjoyed in groups of two or more. Now that they are quite safe on their bikes and can cycle without fatigue they can take longer trips. They even pick out rough roads in order to enjoy "that bumpy feeling." The sheer joy of exercising their bodies is shown in other performances as sliding, skating, swimming, climbing, and above all, running. Some 10-year-old girls are known to be the fastest runners in the school. Racing is fun either on foot or on a bike.

. . . play is no longer paramount in the lives of 11-year-olds as it was when they were 10. . . . The interests of Eleven are quite similar to Ten's. Eleven, however, doesn't have the strong urge to be outdoors and to be constantly exercising his big muscles that he had at 10. He is in constant movement, fidgeting all over the place, and he loves gross motor activities, but he is also a great watcher, explorer, and above all, a conversationalist . . . though Eleven may seem clumsy and bumbling in his motor acts around the house, especially when he is coming into conflict with other members of the family, put him on a ski terrain or on an ice or roller skating rink and you may well wonder where and how he has acquired his new agility.

A study (99) to determine what boys and girls consider important to them in physical education reveals that 4th, 5th, and 6th graders give priority to swimming, bicycling, and horseback riding. They like self-testing activities such as stunts and rope climbing; boys like rough-and-tumble activities more than girls do. Most of the girls and about half of the boys like square and social dancing. Interest runs high in partner games as well as in large and small group games. They think that they should select their own captains and share in planning the program. All of them believe it is important to "control temper" and to be able to apologize when necessary. Most girls think it is important to have boys and girls on the same team sometimes; so do about two-thirds of the boys. And all of them want to improve their skills.

Blair (6) indicates:

. . . the outstanding physical developments are (1) increased manual dexterity, (2) increased strength, and (3) increased resistance to fatigue. These developments make it possible for the child to engage in activities involving the use of small muscles and finer motor performances over longer periods of time. This change in muscular and motor coordination results in a rapid increase in the ability of these children to handle themselves and objects with which they play. They improve in muscular agility, accuracy, and endurance. They can play strenuous games longer, run faster, throw and catch much better, and can jump and climb with great ease and assurance.

Espenschade (30) says:

> . . . muscular activity leads to muscular development; so it is not surprising to find relationship between strength and energy level. Not only skeletal muscles which move the arms, legs, and trunk are made strong through exercise, but the heart itself and the entire circulating and respiratory systems develop throughout. The healthy heart responds to exercise by increasing in size and in functional capacity. The trained heart is stronger, slower, and steadier and it is capable of more sustained effort than the untrained . . . The question may be asked, "Can the heart be damaged by too much or too vigorous exercise?" There is no evidence to show that a healthy heart can be injured by action.[10] The body sets up a number of safeguards to protect its organs from overstrain. Such reactions as out of breath, pain in the side, muscle cramps, and the like, make the child stop short of injury to the heart itself. Possible danger from exercise comes from overfatigue and exhaustion or overstimulation which may lower the resistance of the body to infection or depress the normal recovery processes to such an extent as to interfere with growth.

There in Need to Understand the Body

Havighurst (14) lists as a developmental task of middle childhood the building of wholesome attitudes toward oneself as a growing organism. He describes as the nature of the task the development of habits of care of the body, of cleanliness and safety, consistent with a wholesome, realistic attitude which includes a sense of physical normality and adequacy, the ability to enjoy using the body, and a wholesome attitude toward sex. He goes on to say that there is considerable stress on the "physical" in the American culture, compared with other cultures and that "correct" diet, cleanliness, and regular health habits are highly valued. Schools recognize the need for including health education activities which lead to a greater understanding of personal growth. The curriculum for children in grades 4, 5, and 6 frequently includes such areas of concern as: How my body works, growing up, personal appearance and personality, safe living, food for fitness, my growth chart, exercise and play, and keeping well.

Right-and Left-Handedness

In many 4th, 5th, and 6th grades there will be children with differences in handedness. For example, Martin's study (33) shows that among the 5th grades measured, approximately 86 percent were right handed and approximately 8 percent left handed for writing and other manual activities; but that approximately

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[10] Steinhaus, Arthur H. The Role of Exercise in Physical Fitness. *Journal of Health and Physical Education*, 14:299–300, June 1943. Washington, American Association for Health, Physical Education and Recreation, National Education Association, 1201 16th St. NW.

4 percent were left handed for writing and right handed for other manual activities, and approximately 3 percent right handed for writing, but left handed for other manual activities. These different handed children, approximately 11 percent of the school population, may need to have adjustments made in the environment if they are to succeed.

Dr. Martin made the following comments in a recent conversation with the writer:

> No data are available on the number of children who have been forced by teachers, parents, or others to become right handed for some or all manual activities. Available data do indicate, though, that approximately 11 percent of the total school population are left handed, and this is a considerable number of children. Left-handedness has great significance, especially in the selection of furniture and in the arrangement of work zones and facilities.

A great deal of research has been conducted on the physical aspects of children's growth. No attempt has been made in this bulletin to be all inclusive. Rather, there has been an effort to select material which might help administrators and teachers better understand the physical characteristics of children in grades 4, 5, and 6.

Social-Emotional Development Increases

Outstanding social-emotional characteristics of this period pointed out by research are a tendency toward group life with peers, a tendency to pull away from domination by adults toward greater independence, a groping for a code of values, and a prevalence of fears and worries.

Peer-Centered Activity

The peer-centered activity which parents and teachers have recognized for generations is confirmed by research workers as a characteristic and necessary part of growing toward maturity. Several researchers suggest that the need for support in allaying their own fears drives children to seek close contact with their peers. The children seem to have an emotional need for a "safe cozy place to meet with peers," says Gesell (12, p. 94). Sanford (21) reports a tendency to group membership and conformity at 9 to 10. Children, says Murphy (61), are impressed by rules and abide by the letter of group law.

Gesell (12) reports that organized group life is taken seriously at 10, that 10-year-olds "venerate the symbols of the organization"—the Scouts, for instance. Blair (6) reports that "loyalty to the gang" at this time is the first intense loyalty which is not home based.

Group Acceptance of the Individual. So important is life with peers at this time that a child's mental health, or emotional well-being, depends in large part on his acceptance into a group of peers. Aware of this, research workers have tried to identify some characteristics which might seem to guarantee that a child will be accepted by other children. Their search has not been rewarded, however, for as yet no such definitive characteristics have been discovered. Some help is offered, however, by certain studies.

Gesell (12) points out that the 10-year-old boy is "tolerant rather than exclusive" as to membership in groups. He needs friends—many of them; he accepts those at hand and he does not demand too much of them. Nor does he want to "outdo his mates." It is comradeship the 10-year-old boy wants, says Gesell, not competition. Girls, on the other hand, seem to favor smaller, more intimate groups, with "one best friend." Girls "get mad" at their groups, do not speak or play, but eventually they come back to their groups. This sparring seems to be part of growing up. Eleven-year-old boys are more selective than 10-year-olds; they do not limit themselves to persons nearby, and friendships are more demanding. Eleven-year-old girls, continues Gesell, like 3 to 5 good friends and come "under their influence as if in a spell."

Kuhlen and Lee (55) find these traits associated with social acceptance:

Boys	*Girls*
Cheerfulness	Friendliness
Enthusiasm	Enthusiasm
Friendliness	Good looks
Good looks	Popularity
Popularity	Ability to initiate games

Bonney (48) finds that an elementary school child is acceptable "for what he is and what he does that wins the admiration of others," and not for what he refrains from doing. He found these traits associated with social acceptance: Tidiness, leadership, friendliness, good looks, enthusiasm, happiness (frequent laughter), ease with adults, being active in recitations. Skills are not important, says Bonney, although a child might be chosen to use a certain skill. A child's acceptability, he concludes, seems to be related to "the degree and direction of his outgoing energy." He

must not be annoying and he must not be withdrawn. Northway finds "no single trait or consistent behavior pattern to be associated with acceptance."

One-Sex Groups. There is an apparent drive at this time for both boys and girls to form one-sex groups, boys' groups being more close knit than girls'. Both seem to have the same function: To permit ingroup exchange of information and opinion on matters of importance to children and particularly to gain understanding of the appropriate role of the male and female in our society. Boys' groups meet "behind closed doors"; girls, less free to do this, whisper in corners wherever they can. Findings are not consistent, however, as to the component characteristics of children found in one-sex groups. Boys' groups consist of children of about the same intelligence and physique, says Zachry (23); girls' groups consist of children of about the same mental ability. Blair (6) found groups formed of children similar in age, sex, size, and interests.

Attitudes and behaviors between the sexes are not consistently reported. Blair (6) finds antagonism between the sexes, and teasing, with boys and girls refusing to play together. Gesell, on the other hand, finds that while antagonism between the sexes occurs, it is not sustained, though 10-year-old boys express "disinterest or disrelish" of girls, while girls say boys "can be plenty mean"—they throw food and pull hair and chase. Eleven-year-old girls like it when boys tease and joke with them, says Gesell (13). Girls may like a boy and the boy not know it; but when a boy likes a girl, he is sure the girl likes him. Parties, says Gesell, are not so common at 11 as at 10. Eleven-year-old girls sometimes organize mixed parties; after the party, boys and girls separate and go their separate ways.

Campbell (51, p. 524) concludes that "toward the end of the period (9 to 14)[2] he (the boy) becomes sufficiently conscious of sex so that he does not wish to touch girls or show them any attention except under socially approved conditions such as in games or dancing." The girl "begins to be sufficiently conscious of sex so that she will not deliberately touch boys except under conventional circumstances as in games or dancing. She classifies games according to sex—boys play this, girls play that." (51, p. 525–526.)

[2] May apply to more mature children in grade 6.

Adult-Centered Activity

Research shows that the years 9 through 11 contribute much to the independence of children and that many of their activities reveal the drive to become independent of adults. Some findings show that children turn away from, sometimes against, adults, even becoming aggressive in their behavior.

Zachry (23) has said of the child of these years: "He expresses almost no need for adults; on the contrary, he tends outwardly to scorn adult concerns and reject the interest of adults in his activities, attempting to envelop his own life in secrecy."

The peak of nonsocial behavior is found by some researchers to occur during these years. Blatz and Bott (47) place it at 8 to 9 years for boys and 10 to 11 and 13 to 14 for girls. Issacs (84) places the height of hostility toward adults at 10 to 11 (6).

Redl (67) finds in working with disturbed children of these ages, distrust, irritability, suspicion, and rebellion at routines and manners and customs. They reject adults as representatives of society. "Talking things over" is sissy. Children of these ages, says Redl, reveal themselves only in group work.

Blair (6) reports that the change in authority relations from adults to peers is expressed in the rejection of adult standards, more so in boys than in girls. In keeping with this, another group observes that even when children enjoy helping make home plans, they may then reject them in favor of peer plans (19).

Hurlock (15) puts upon the environment, rather than upon growth characteristics, the major blame for this negative-phase behavior: Poor home conditions, lack of understanding of the situation on the part of parents, inadequate knowledge on the part of the preadolescent of the changes taking place, insufficient food of the right kind, and too many duties outside the school, usually, but not exclusively affecting children of poor economic status more than other children (15, p. 318).

Gesell (13, p. 54), to the contrary, finds in 10-year-olds an abiding affection for family:

> If ever the word *family* acquires its true meaning, it is when a child is 10 years of age. In fact, no other father or mother seems to surpass his in his eyes. His home is just about right . . . Ten is fond of his home and loyal to it. He is in some ways more closely attached to his family than he was at 9. The roots of attachment cling deeply to both parents. The mother has special prestige. Boys recognize her authority and obey her more cheerfully than earlier. Girls confide in her and accept her guidance. For the most part, both boys and girls get along well with father and enjoy his companionship. A boy likes to go off on an excursion alone with his father in a bond of camaraderie.

Gesell states that this strong attachment to family extends to age 11, but with a difference. Children now like their freedom. Parents (and teachers) are seen as individuals whose personalities are reflected in behavior. Children stay close in the family group, alert for all they can learn. They are critical of their parents, find fault, talk back, yell and argue (without listening to the other side) completely unaware of the havoc they create (13, p. 83). Again, the same child may be the life of the party, for he has a talent at this time for gaiety and laughter. Despite the storms which occur, these children like their homes. The 11-year-old girl likes to confide in her mother and worries over her mother's health. She is highly sensitive to criticism by her father.

Frank (105, p. 198) also finds that prepuberal girls identify themselves with their mothers and have a strong attachment to their father, whether he is warm and permissive or rigid and withdrawn.[3] In behavior, says Frank, children in the upper socio-economic groups show passive compliance; in the lower brackets they show confused and aimless rebellion. "Maladjustments," he says, "stem from these two sources."

Looking for Heroes and Deriving Value Codes

Researchers disagree about where children in the middle grades in our society look for models to emulate. Havighurst (14) states that 4th-grade children aspire to be like historical heroes; 5th graders, like successful young adults within their observation; and 6th graders, like a composite or imaginary character. Murphy (61) points out that 9-to-10's live "up to the letter" of peer group law; Blair (6) states that these children imitate *only* peers, not adults nor older children. Peers, states The Ohio State University group (19), provide standards in dress, manners, and activities; parents provide ideas about race, religion, morals, and vocations. Frank (105, p. 195) says prepuberal girls live up to stereotypes they draw (of older children)—cosmetics, grooming, glamorizing, dress, speech, gesture—without identifying the feminine role in their imitations.

Fears and Worries

The search for values, or "ideas and feelings to live by", goes on continuously, knowing neither subject matter not activity boundaries. Probably the inner struggle is revealed most in the children's fears and worries and in the ways they use to reduce these.

[3] Applicable to more mature children in grade 6.

Several research workers find children in later childhood "unhappy and tense," filled with authority conflicts and haunted by fears. Cole and Morgan (9), for instance, say, "During the middle years of childhood, physical and social frustrations fade into the background in the face of a new type of barrier against free activity—the child's conscience, which stands guard over his every act and hampers him at every turn." At this time, self-punishment is not uncommon.

Frank (105, p. 194-197) found that girls of 10 to 11 whom he studied, with few exceptions, had anxieties and conflicts, were unhappy and tense, lacking in self-confidence, withdrawn and introvertive, with a "pervasive fear of life," a general fear of sex, and having growing concern with their own maturing bodies.

Blair (6, 150-151) reports that children of 9 to 12 have "fear of bodily injury, attacks by others, confinement, fire, sight of fighting, dangers of traffic, driving, and characters met and remembered." The fear of being abandoned by parents increases, but is not prevalent.

Gesell (13, p. 86) says children, especially boys of 11, are afraid to be alone or shut in, that they check to see who is around. Girls fear physical pain, infections, that something will happen to Mother, and that no one likes them. At this time, criticism from Father really hurts.

Cole and Morgan (9, p. 91) recount worries listed by 5th and 6th grade children. Among them are the transient as well as the deep rooted:

Failing in a test in school.
Father or mother being sick.
Father or mother working too hard.
Getting a bad report card.
Father losing his job.
Being late to school.
Being hurt by knives, guns, poison, fire, floods, or in an accident, holdup, burglary, or fight.
Being sick, suffering, choking, dying.
Losing money during an errand.
Losing one's fountain pen.
Losing one's friends.

Summary

Social-emotional characteristics and needs of children, ages 9-11, as research workers have found them, may be summarized as follows:

1. Like all human beings, these children need the security-giving factors in order that their growth may flourish in desirable ways.
2. The period contributes much to social-emotional growth. Strides are being made in becoming more independent of the family: children now have great dependence on group life—among peers of both sexes, but particularly of the same sex.
3. Although group membership is necessary to happiness, there is little clarity as to what characteristics guarantee acceptance. Perhaps the most reliable criteria are that the child must be friendly and outgoing and not annoying or withdrawn.
4. Relations with parents and other adults are precarious. Some researchers found great hostility; others, real affection and loyalty. The deciding factors may lie in the affection adults have for children of these ages and their understanding and tolerance of the behavior characteristics of this period, as well as in the wisdom and consistency of guidance. Toward the end of the period, children see adults as *human* beings, and, probably in their disappointment, become fault finding and critical.
5. Some research workers have found that models whom these children imitate move from historical heroes at age 9 to a composite or imaginary figure at age 11; others say these children emulate *only* peers; still others find that children imitate the ways and ideas of both peers and adults, particularly parents.
6. Conscience shows real development and fears and worries are more prevalent than they appear on the surface. Out of this struggle, a code of values develops.

Children Are Curious

Most of the research findings on intellectual characteristics of children ages 9 through 11 have come from studies of small groups of children or long-continued studies of individuals. The outstanding intellectual characteristics of children in this age group reported by the research is *curiosity*. The children are interested in everything in their environment and are eager to learn.

"Middle childhood," says Havighurst (14, p. 62) (including ages 6 to 16), "is an age of activity, of exploration and investigation." Gesell (13) describes children of 10 as "wide ranging in interest, antecedent to deep delving."

Interest Is Essential to Learning

It has been well established that interest is a very vital factor in learning, making it possible for the person to focus attention and to round up the powers of observation and thought in relation to events. Through observation of children's interests, one may

gain some understanding of where the child is in the scale of growth toward maturity and how he may be helped to grow.

Children Have Many Interests. Interests in later childhood are indeed wide ranging, say workers who have studied children's questions and contributions. Attempts to analyze or classify these interests reveal some central trends. The world of reality makes an overwhelming demand for attention. Havighurst (14, p. 77-91), student of human growth, observes that "mental growth seems to occur in four broad movements:

to separate objective reality from fantasy.
to explore reality and discover its orderliness.
to put reality to use.
to find a more basic reality beneath the surface of things."

Most children in grades 4, 5, and 6, says Havighurst, are somewhere in the stages of exploring reality, discovering its orderliness, and putting reality to use. Describing three levels of mental growth, he point out:

immediate physical and face-to-face exploration of reality,
mental exploration of concrete facts,
abstract thinking,

and says children in these grades are on the level of making mental exploration of concrete facts.

"It is toward the *close*[1] of middle childhood that the power of abstract thinking begins to show itself," says Havighurst. "On this mental level the child is ready to study science as an adult. He is ready to understand scientific and logical explanations. He is ready to go beneath the surface of reality in his search for rules and principles."

Children are now turning from the fanciful to the literal and factual, says Zachry (23). They want to know how things are, what they do, and how they work: machines, the body, and all else around them. They want to make things and make them go. Witty (103) notes an increase in reading "realistic adventure." Children in grades 5 and 6 are more interested in nature and the physical world than are older children in grades 7 to 10, says Bell (76).

Studies of questions asked by children in grades 3 to 6 reveal that approximately one-half deal with social phenomena, communication, transportation, inventions, development of cities, social customs, and current events; one third call for scientific in-

[1] Italics inserted by authors of this bulletin.

formation (73). During these years, attention turns from animals and plants to "earth, energy, the human body, weather, climate, and astronomy." (6, p. 154). Adkins finds that, although older children do not lose all interest in animals, their interest progresses from the activities of animals to the service they render to people.

Self-Involvement

There is a strong element of self-interest and self-reference in children's ideas about life and the world at large, says Jersild. (16). "A child's conception of happenings in the world about him is likely to be in terms of his personal stake in what is going on." Both Jersild and Baker (16, 74) find, however, that from grade 4 to 6 the contributions children make show decreasing concern with situations involving themselves and increasing concern with situations involving other people.

In regard to interest in human relations, Havighurst (14, p. 82) says, ". . . intellectual curiosity is channeled more in the area of impersonal relations, things, processes, and exploration of the surrounding world than in the area of human relations . . . He is *feeling his way* in human relations while he is already *thinking his way* into the world of nature."

Attention to Details

Regardless of socio-economic background, says Havighurst (14, p. 83), or the type of instruction, children now have a preference for details rather than wholes:

> [They] rarely attack the main thread or theme of a story or process; instead they are interested in sidelines, oddities, minor details. Toward the end of middle childhood and just before adolescence there is a pull away from the immediate present . . . rarely discussed anything that was an intimate part of their lives.

Interests, cautions Jersild (16), are *learned* to a large degree and *depend on opportunity* as well as on special abilities and limitations. Children, he continues, not only cultivate an interest in something for which they have ability, but many actually cutivate an interest as a result of inadequacy in something else. Interpersonal relations, says Foshay (54), are highly important. Children seem to cultivate those interests which are approved by peers and adults around them, and which bring them approval and prestige.

Quality of Thinking

There is evidence that the power to think logically and precisely increases rapidly during the years 9-11. Adkins finds that children

of 9 and 10 show ability in sorting, and that the highest peak occurs at age 9. Gesell (13) finds 9- and 10-year-olds interested in collecting, sorting, and identifying. Isaacs (84). Deutsche (78), Jersild (16), and Havighurst (14) all find increase in causal thinking and in making and applying generalizations, although they also find that applications are still likely to be specific to the situation rather than general, as in concepts of honesty, loyalty, and cooperation. There is a zeal for fairness, says Gesell (13), although children are more aware of what is wrong than what is right, and their thinking is concrete and specific.

> "Understanding of causality," says Havighurst, "develops during middle childhood. The word 'because' can usually be divorced by a child of 8 or 9 from the notion that there must always be a human or divine will that 'causes' every event. Purely physical and material chains of cause and effect will be described by the child if he has enough information. Many of his questions are aimed at getting enough information to describe events in casual terms (14, p. 89) . . . In middle childhood an individual becomes able to make mental experiments." (P. 92.)

Development of Concepts

Studies of children show an increase in the concepts used by children and in problem-solving ability during these years. Adkins (72, p. 437) says, "The number of different concepts used, the degree of generality in grouping, and the tendency to attack the problem in a logical, deductive manner all show a great increase between the kindergarten age and the 3rd and 4th grades." Beyond the 4th grade, he says, individual differences are endless. Havighurst (14) says thousands of concepts—practically all those needed for the ordinary tasks of daily living—are formed during middle childhood.

Adkins points out that as children grow older they show an increase in concepts relating to self and the body, concepts of pleasure, ease, and beauty, and concepts of sex and age. Concepts of superiority or of product and process reach their highest peak toward the end of this period, at 11 to 12. Piaget (91) remarks: "During the years here labeled 'later childhood' the individual's ideas concerning the origin and natural functioning of plants, water, sky, sun, moon, earth, and so on, become remarkably clear and correct."

Concepts of *time*, researchers say, are very slow to develop, both as they apply to chronological history and to personal lives. Devices and formal chronological study used in experiments to encourage the development of time concepts seem to yield no more rapid development than teaching which does not utilize these means (16). Pistor (92) concludes, "the evidence points heavily

in favor of maturation, rather than training, as the dominating factor in time-concept development." Blair (6) points out that limitations in concepts of time may have much to do with behavior characteristics of individuals and groups during the ages 9-11.

Gesell (13) points out characteristic weakness in seeking relationships, and he suggests that this may account in part for the unpopularity of social studies at this time.

Development of Self-Criticism

Toward self, says Gesell, 9-year-olds are critical and often self-disciplining; 10-year-olds, on the other hand, are unself-conscious, easygoing, and liberal in judgment. Ten is a period of broad and shallow thinking. At 11, most children are again self-critical and want to think more for themselves. Bühler states that from 10 on, 60 percent of the children are capable of objective self-criticism.

Group Thinking

In group discussions, Jersild (14) finds "as children grow older," their contributions are much more likely to follow a topic or subject already under discussion and less likely to be irrelevant to preceding contributions.

The More Able Children

Concerning the more able children, Gesell (13, p. 30) points out that these children retain the major characteristics of their chronological age level.

> 'Mental age,' as the term is generally used, is actually a score obtained on a test; it is a valuable index of brightness. But a normal 10-year-old with a mental age of 14 does not necessarily act like a 14-year-old; he tends to act more like a *bright* 10-year-old. Within the normal range, intelligence is not so much related to the *speed* of the course of development as to its *fullness*. The superior child tends to portray the developmental characteristics of his age with a special vividness. The growth of general intelligence is not markedly affected by sex differences nor by such physical factors as physique or age of onset of puberty. Total growth is more comprehensive and conservative than any single index, such as mental age. The maturity index has special import both for present status and future potentials.

Adkins (72, p. 392-402) implies that in the small group she studied, "bright children bring more knowledge to bear on a situation, appreciate more of the context of a situation, see more intrinsic qualities, and place different values than do other children."

A recent study (7) of 100 gifted children reaches the conclusion that they are very similar in many ways to other children; their interests extend into physical and social, as well as academic realms; their behavior as often merits the approval and disap-

proval of their parents; and although they read well, their tastes in reading as well as their interests in all directions need cultivation at home and in school. They are fairly happy and well adjusted and they like most teachers, especially those who combine firmness with affection and a tense of humor.

Summary

Intellectual characteristics of children in grades 4, 5, and 6, as research workers see them, may be summarized as follows:

1. Children in grades 4, 5, and 6 are alive with interest. They are moving strongly away from the fanciful, away from the snugness of family, away from "self-containment," to the real, to "reality testing," attempting to understand everything in the physical environment. Although they crave companionship, techniques of human relationships are far out on the margin of their attention. Perhaps Havighurst is right that here they are *feeling their way, while they are already thinking their way* in the world of nature (14, p. 82).
2. Children increase rapidly in ability to think clearly, to look for causes, to draw and apply generalizations, to plan, to predict consequences, to follow through, and to modify plans. Thinking, however, is "broad and shallow," and deals better with concrete situations in which one is personally involved.
3. Concepts based on reality increase rapidly; toward the end of the period, children struggle to clarify abstract concepts such as fairness, loyalty, and honesty. Concepts of time develop slowly and are probably dependent on material factors. Relational concepts are not always clear.
4. The ability to judge or discipline themselves characterizes children of these years, particularly at 9 and 11, and discouragement seems to come easily.
5. The desire to think for themselves rather than to accept the decisions of others develops dramatically during these years.
6. "Brightness" or "giftedness" does not imply that a child is "old for his years" so much as that he is more interested in and more comprehending of more aspects of living at his age level; he is more 10 years old than most 10-year-olds.

Chapter II

What the Educators Said About Children

"REPORT FROM EXPERIENCE what you believe to be the characteristics of most of today's children of these ages, clearing your mind, if possible, of all that you have read about them." To this challenge educators at the 40 conferences responded in discussions, pointing out those qualities, good and bad, which seem characteristic of modern 9-, 10-, and 11-year-old children.

What characteristics were pointed out? How do these agree with research findings?

What The Children Want

Among the things teachers say that children in grades 4-6 seem to *want* to be or do are these:

To be useful
To participate
To bring things to school
To share personal experiences
To read
To experience new things
To apply their academic skills
To explore ideas and facts
To use their physical skills
To manipulate and construct
To have responsibility
To think for themselves
To develop their own philosophy

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To understand adults' values
To have adults be consistent in values
To know the limits of their activity; to have a part in setting the limits
To have help in selecting what should be followed through to completion
To talk things over: ideas, problems, plans
To have opportunity to learn skills (or facts) not yet acquired (remedial and developmental)

Children's Physical Characteristics

These children differ greatly in size, said the educators in this study, but whether tall or short, pudgy or thin, most of them are healthy, squirmy, wiggly, restless, and eager human beings. Their pronounced drive for activity is both challenging and discouraging, said the teachers: Challenging when interest can be aroused and space and materials are plentiful, discouraging when it cannot be aroused or when conditions are crowded and the learning environment is meager. Abundance of energy stimulates not only a desire to improve physical skills, but also to probe more deeply into the "why" and "how" of things. In a sense, energy is expended with a more definable purpose—with testing self; with discovering "how I can do things better." Motivation seems to come not from competing against others, but rather from working with peers to see how "I" can improve. Proficiency of a sort in a variety of things appears to be more important than excellence in only a few.

Differences in stature and weight, although more pronounced in the 6th grade, are evident even in the 4th grade. In some classrooms, differences of 15 inches in height, and 80 or more pounds in weight are found in children of about the same age. Generally speaking, girls mature faster than boys, and this brings problems. There are usually more tall girls than tall boys and more small boys than small girls in a given classroom. Tall boys usually take pride in their growth achievement, but tall girls frequently are embarrassed by their towering height. Short girls, in these grades, are not disturbed by slow growth, especially if they are not overweight. They stand "light" on the scale, said some of the teachers, but short boys stand heavy with the hope of adding a few measurable pounds and stretch tall to achieve greater height. It is not unusual for even slow-growing 9-year-old boys to plaintively ask mother, teacher, or nurse: "Will I always be so short?"

Many children who are achieving intellectual goals but who are small and thin or short and pudgy are left out of games, parties, gangs—everything. And, said the educators in some conferences, in our communities parents and other adults plan activities that appeal only to the more mature: Social dancing, hayrides, skating parties—where a girl can go only if accompanied by a boy. Teachers wondered whether society is forcing activities on children for which they are not really ready. They commented, "Is this the reason there are so many nail biters, daydreamers, and nervous and restless children?" Said the teachers, "Perhaps children are taller than they used to be because of better medical care and guidance, and better nutrition, but does this mean that they are more mature in their interests and tastes? Are parents and other adults expecting adult masculine and feminine behavior patterns in children and robbing them of chances to enjoy childhood, which is so short anyway?"

Some teachers were surprised at such discussion on maturity. Evidently in some communities the social life of children is not organized along adult patterns. Children are permitted to be what the teachers termed "more natural"—to play with members of the same sex or together, according to the mood; to take part in activities that seem more suitable for 9-, 10-, and 11-year-olds.

After exploring differences in maturation, discussion usually returned to looking at children in the various grades. Fourth graders, most educators agreed, love to make noise and to push one another around, but by grades 5 and 6 these tendencies ease off. Most 9-, 10-, and 11-year-olds are eager to develop greater motor skills. They have a desire to work for greater accuracy, speed, and strength, too. And among the conferees there was a general feeling, too, that where equal opportunity exists, girls perform as well as boys in speed and accuracy events but seem to be outdone by boys in strength and endurance.

Using games, sports, hiking, dance—movement in general—as a way of expanding interests, exploring talents, extending friendships, and becoming better acquainted with the world about them is characteristic of 9- to 11 year-olds. Acceptance in peer groups with which children want to be identified frequently depends on motor skill and "sportsmanship." Their eagerness, health, energy, and need for belonging drives many of them into such a multitude of activities, said the teachers, that they come to school listless and fatigued.

The educators expressed some concern about the competition of agencies outside the school for the time of the children. "Every

community organization wants to do something for children," said the educators. "And because each organization wants to survive according to its own plan, there seems to be hesitancy about planning together. Can't parents control the children's excessive activity loads?"

In some conferences, teachers felt that the same children were "wanted" everywhere, and that others, less mature, less dynamic, less social, less likeable, were left out of everything. And some felt that communities did far too little for children in grades 4, 5, and 6 on the assumption that the natural drive for activity would lead children into finding things to do, or that parents ought to find things for them to do.

Although much of the discussion on physical growth was centered around various signs of maturity, few comments were made regarding sexual maturation. Whether administrators, supervisors, and teachers were reluctant to comment upon problems related to the onset of menstruation in girls and the development of secondary sex characteristics in pubescents, or whether the lack of time precluded such discussion is not clear.

Concern was expressed about the health of children in these times. Questions arose such the following:

Do we know what crowded conditions at home and school do?

Do we have scientific evidence that children mature now at a rate more rapidly than formerly?

How can schools do a better job of getting communities to examine what is being done to help children grow up?

Is our society putting too much premium on stature, physique, beauty, and charm?

How can the school in cooperation with the home foster better physical development of children?

Are large numbers of our children undernourished?

Are large numbers of our children spending a disproportionate amount of time watching television? Is this affecting their vision? Depriving them of the physical activity they need? Causing tensions?

There was almost a feeling of guilt on the part of some educators about the inability to share in fostering the physical development of children. Some said:

We know both boys and girls need big-muscle activity. We know they are curious about their physical development and what they can do to achieve personal optimum growth. We know we should respect their drives for activity, their desires to achieve and belong, their "pictures" of themselves as they move from where they are now to the next grade

> and the next year . . . We know we should give them better experiences in understanding themselves and others, in health, physical education, and recreation . . . but there are so many things to do in the school day, and we are so crowded and so busy . . .

Yet, reflected in all conferences was a pride in the physical development of most of the Nation's children.

Social-Emotional Characteristics

Two focuses of social relations for the child in grades 4–6 were pointed out: His relations with peers and his relations with adults.

Relations With Peers

Children in grades 4, 5, and 6 direct much of their social activity toward other children, primarily those of approximately the same age. On the playground and outside school, they hover in similar age groups, not about the teacher as they are likely to do in earlier grades. Increasing steadily from grade 4 through 6 is this peer-centered activity. To be wanted as one of a group, to be on the "inside," helping, planning, talking, doing—this is "what children want at this time of life." Both inside and outside school, clubs, "cliques" and "gangs"[1] are characteristic, and the approval of peers is essential to happiness. Membership in these groups, teachers said, becomes more and more constant as children progress from grades 4 to 6, and unhappy is the child who does not win his way into a group. In fact, some "fringers," at a loss for ways to win acceptance, attempt unsuccessfully to push and shove their way in.

Working together is much more pleasant than working alone, especially to children in grades 4 and 5. By the time children are in grade 6, however, most of them cherish time to be alone each day to indulge in a personal interest or to test or improve some skill.

Judgments toward each other in grade 4 are likely to be harsh and unyielding. "Right" and "wrong" are known quantities, accepted as given by the adult world, and violations are not condoned. In grade 6, among all but the less mature, mercy is more

[1] This normal behavior is not to be confused with antisocial behavior of delinquent groups.

likely to temper justice, since children, now able to think more independently, are less certain of values which formerly they did not question. Most children in grade 6 enjoy discussing values, and they will consume much time in groping to clarify a concept or the justice of an act.

Do Boys and Girls Withdraw From Each Other During These Years? The question as to whether boys and girls prefer one-sex groups during these years came up in many conferences and drew differences of opinion about as regularly. Discussions seemed to support the conclusion that in some schools boys and girls do not seem to feel a strong need to separate. In fact, as low as the 4th grade and continuing through the 6th, they frequently ask for activities such as folk dancing and table games *together*, and dating begins in some cases.

There was some discussion to the effect that girls watch boys' activities more than boys watch girls' activities. "Girls are more aggressive about getting attention, too," was voiced in several groups. "Boys sometimes prefer a girl, but they won't say so," was more than once the reply, usually by a man teacher. Boys, they said, when in a group of boys—or with the teacher—will sometimes say, "There's my girl." Usually the girl knows nothing about it.

"Parents and community groups have many out-of-school mixed (boy and girl) social affairs for children now," said some. "What is happening in school reflects this." For some children as young as 10, mixed dancing lessons and dancing parties were reported, roller skating parties to which 10-year-olds go "paired and remain paired all evening," hayrides to which only boys may come who have a date to bring. In some places, boys and girls gather after school in someone's home to have what they call a "kitchen tea," before dashing off to an extra-curricular activity. One weary, wide-eyed, but bewildered 10-year-old boy who was having difficulty with his arithmetic was reported by his teacher as saying, "I can't think about this arithmetic. It's not the schoolwork; it's the dancing and the music last night. I can't get it out of my head."

Children in grades 4, 5, and 6, said teachers in several conferences, generally talk more freely now in the presence of the teacher about marrying and having children. A teacher was asked by the children to counsel two girls who were being approached by the same suitor; the same teacher was asked by a boy what he should do, since five different girls had asked him to go to the same social affair. His problem was: How do you choose a girl

—by her looks, by what she does, or just how? In one 6th grade where worries are discussed, children commonly ask, "Am I old enough to date? to be in love?" Teachers agreed that free discussion is more wholesome than secrecy, but many were concerned about these interests appearing so early.

Awareness of the opposite sex seems more common in 5th grade than it used to be. Boys seem to do more personal grooming (some begin in 4th), carrying a comb and using it, washing hands voluntarily, even occasionally wearing a tie. Girls begin to wear lipstick and nail polish and to dress up their hair. A few children wear "steady rings," and some date. Children also maintain the older stereotype, however. Boys show interest in girls by pulling hair, and girls show how much they like it by squealing and running (but not too fast)!

In grade 6, the relationship seems to be considerably smoother. "They show that they like each other in a friendly way." "They aren't so antagonistic as formerly." "They don't pick on each other so much." "They get along better." "Their social relations are much more mature." Among the comments, two stand out especially: "Mature girls turn to older boys in the higher 7th and 8th grades." "Cliques and gangs are more numerous than in earlier grades." These cliques and gangs are, of course, one-sex groups, performing a function evidently, even in a more friendly boy-girl world.

Relations With Adults

Teachers see much evidence to confirm the idea that parents are of supreme importance in the lives of children, 9 through 11. Not only are they still dependent upon the family for physical sustenance; they are dependent upon them emotionally. They want "family" and they need assurance and reassurance of their parents' love. They also need their parents' help to become more independent. They express delight when their parents take interest in what they are doing, and especially when their parents approve of them and understand them.

Teachers also discussed the fact that children nowadays are so often alone during the late afternoon hours, after school but before parents return from work or other obligations. Although the children are often ready to take care of themselves, many need supervision at home. When parents have planned with their children what to do and how to do it when left at home alone, there is a better change that children will not get into difficulty and will feel themselves a more needed part of family life. In

several conferences it was stated that children seem to understand and accept it when their mothers must work to help support the family, but some have difficulty accepting it when their mothers work just to buy "something we don't really need."

Many conferees said that children today show greater nervousness, and have more fears, anxieties, and worries. Among causes which teachers mentioned as creating worries were broken homes, parents away from home (especially mothers, but also fathers), and lack of harmony between parents. Children seem much more aware of home situations in recent years. Some children even voice their desire to have parents do certain things such as "be home when I get there," "tell me what to do and make me do it," acts which are no doubt embodied in their "parent ideal." A few teachers said that children seemed worried by fear of failure at school.

Increasingly, as children grow older, they question their parents' authority—and the teacher's too—and they attempt to make adults conform to what they want. They are likely to accept the code of a group or the code of a school. In fact, rarely, it was thought, do they question the school's philosophy, regardless of what it is.

To the teacher, children look for guidance and for assurance in school that they are "growing up" in desirable ways; many of them look to her for counseling in personal problems. Generally, they are cooperative; they like to please; they want responsibility, and they want praise and recognition. They like to help plan and carry out plans. They frequently undertake too much, or overestimate their interest and their ability, and they need help in evaluating the worth of seeing plans through. This spirit of cooperation does not fall away during these years; rather, the conferees' opinion supported the idea that there is a steady increase from grade 4 through 6 in "cooperation and helpfulness." A young man teacher was supported in his statement that "they all put up their hands to volunteer to help even before they know what you need help with!"

The desire to confide in the teacher and to look to her for affection was mentioned over and over in many conferences. Voiced more than a few times, sometimes by older teachers who have recently returned to teaching, was the conviction that this behavior has increased in recent years, especially but not exclusively in areas where both parents are out of the home a great deal, and among children of mobile or migrant families. It was

interpreted to indicate a need to confide in an adult, the teacher apparently being chosen at this point for the reason that she was accessible and sympathetic. Some teachers expressed reluctance at becoming parent substitutes in this respect, not so much because of the added responsibiliy, but more because they (many of them parents themselves) hesitate to preempt the privilege of the home; most doubted whether anyone but the parents can fulfill children's needs adequately at this point.

Children of these years have problems, and they think most adults are not sympathetic. They want chances to talk. They are concerned about not being wanted, not belonging, not being treated fairly, not having enough dresses, not being allowed to go out enough. If the children are given a chance to talk, the problems often diminish. Frequently, too, plans can be worked out agreeable to all concerned.

Summary

Social-emotional characteristics expressed by educators from their experience with children may be summarized as follows:

Children of these ages have two focuses of social relationships: Adults and peers.

Children form cliques and gangs increasingly from grade 4 to 6. A child who cannot become a member of a group shows that he is unhappy.

Boys and girls seem to want some one-sex and some mixed-sex activities.

The program operated by the school, as well as social life outside school, seems to influence this. In some communities, dating begins at 10 and 11.

Many children come to school with inadequate breakfast and insufficient rest.

Children need their parents' love, approval, and guidance, and need opportunities to talk with them. The lack of these seems to present a problem to children whose parents are too busy to spend time with them.

Children question authority; they want proof.

Children become critical of adults, and many are rude to their parents during these years.

Children talk more than formerly to teachers about personal problems, fears, and worries, and about dating, marrying, and having children.

Children's Intellectual Characteristics

Educators supported the research finding that children in grades 4, 5, and 6 want to learn. Curiosity is high, and interest

is manifested in everything in the environment. "Everything is new," say the teachers. "The children are explorers."

The list of interests is practically without bounds:

science
electricity
molecules
atoms
atomic energy
mechanics
industry
technology
the state
the world
people—places—events
"real" things, but fantasy, too
radio and television
music, arts, crafts
making, doing, creating, collecting
foreign languages
codes, secrets, mysteries
sports and athletics
the universe
space flight
history
biography
adventure
the "heroes"
homes
books
movies
politics

Some retain interest in seeds and how they grow, and in animals and how they are born and grow. Interests are wide, and as deep as perception permits at this time; only occasionally does a child pursue an interest to great depth. His is a fleeting interest, moving him quickly from one focus to another. That this apparent fickleness makes teaching difficult as well as adventurous is shown by teachers' statements such as the following:

> Intellectual restlessness characterizes children in 4 through 6.
>
> There is great variation among children in attention span.
>
> Biplay easily detracts most of them.
>
> In the same individual, the span of attention varies with interest in the activity. For instance, a girl may play with a doll all day but her interest in reading class may endure only a few minutes.
>
> The "gifted," it was pointed out, will go deeper and further into interests and will bring the results to the other children.
>
> But: It is amazing how thorough most of them are when they are really interested. On their own initiative, they often will pursue the facts long after I (the teacher) would have turned to something else.
>
> They are keen observers, and you can't satisfy them with a "phony."

Together with their increasing hunger to know, then, are more mature ways of finding out. Study habits and skills which aid in gaining information are improving rapidly.

In the face of children's broadening awareness of their surroundings they feel a growing sense of their own inadequacy. Gone are the self-confident days of the primary years. Instead, a "fine capacity for self-appraisal" flourishes now, and discourage-

ment and defeat are easily come by. Weaker and slower, children know others are outdistancing them. All look to the teacher for assurance that their own growth is normal. The question, "Am I doing all right?", seems to underlie much of their activity, and assurance of personal growth is about all it takes to stimulate further effort. Competition with other children, say these teachers, is more than some children can bear.

Collecting characterizes this period, and children collect everything, although rocks, stamps, arrowheads, dolls, shells, airplanes, snakes, and pennies head the list. The collecting sometimes is an end in itself; sometimes it leads to study. Said one boy realist who had been stimulated to arrange an historical display of his pennies, "There's not much you can do with a penny but collect it."

Models and Heroes

It is common now also to look outside oneself for models, for heroes, and in the opinion of teachers, these are found in movie and television stars, historical characters, inventors, sports stars (achievers, both men and women), and older children in the environment. Children seem to identify for a time with these heroes (always good, never bad people), working out their aspirations in daydreams.

Quality of Thinking

The *quality* of children's thinking during the years 9–11, came up for attention. Those who work with children throughout all 3 years feel that there is dramatic increase in maturity of thinking from grades 4 through 6. Increasingly, as children progress, they want *to know how, what, and why,* and *to find answers for themselves.* A father of a 9-year-old boy noted this when he said, "For the first time in my life, I enjoy Dick intellectually—I can talk to him." The father at the time was teaching Dick how to skate and ski.

"They are loath to accept anything without proof," was said in several conferences. Viewpoints once accepted at face value must now demonstrate their worth. Even group moves are questioned if they conflict with new-found values. "They are eager to get facts straight and will go a long way on their own initiative to find out the truth." They are able, too, to see more than one side of a question, and take pride in showing this to their classmates.

Children now look for *cause and effect,* said the teachers. The painful care required to express (perhaps to establish) casual relations between two facts was clearly dramatized by a 4th grade

science committee studying the effect of yeast. One pan of dough which the committee had placed held the label, "This dough will not rise. This dough has no yeast. This dough will not rise because it has no yeast."

Developing Concepts

Despite the advance in reasoning noted among most children during these years, it was stated repeatedly that children reason better about concrete objects and situations. This observation is in full accord with the findings of research.[2] They are struggling to understand abstract ideas such as fairness, honesty, and loyalty, but their judgments are often fluctuating. An example given more than once was the matter of change in concepts of right and wrong from grade 4 through 6 (and later). The grouping for concepts which they can use as a basis for a personal (and group) philosophy is made more difficult by complexities which arise and by inconsistencies and fluctuations which they see in adult life.

For instance, an older child, in one community, was involving children in grades 4, 5, and 6 in trouble. The 5th-grade teacher was aware that some children in her room knew about this, but the children "wouldn't squeal." The teacher thought they had witnessed thievery; she knew they were disturbed. She decided to help the children see what was involved in the situation. So she encouraged them to think about values, taking care not to pressure anyone into committing himself. She put these questions out, chiefly for silent thinking: (1) How do you decide things like this? (2) You consider *who* is being hurt. (3) Are people being hurt more than helped? (4) What could the outcomes be? (5) If you decide that you should tell, you could go directly to the authorities.

Later, a child who was pressured outside class by the group to tell became sick and had to stay home. When he returned, he went straight to the principal and told. A member of his grade remarked to the teacher, "He's not sick now. He feels better."

Another child who was involved in the situation said, "I wondered every night what was right to do."

Another small boy faced a real problem: "Gosh, I couldn't tell. The kid'th twyth my thyth!"

"But we confuse them," said this teacher. "We encourage them to tattle sometimes and not to tattle at other times. How can they tell when to and when not to?"

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[2] See ch. I, this study.

Further confusions brought about by adult behavior were identified. "In an area where workers are cleaning ditches, there are piles of beer cans and bottles every 9 feet. We teach the children the evils of alcohol 'with tongue in cheek.' Children can't reconcile this."

A young man said, "We teach safety on the highway, with bottles galore and drivers sneaking through every light they can make."

Being able to talk things out with teachers was considered a gain, however. Formerly the threat might have been to "tell the truth or be whipped." Under those conditions a child wouldn't have told adults anything; now there is more confidence that adults might understand. "Adults are not so punishing; they are more helpful in setting values."

Although children want "rules" to govern the limits of their activities, they want to understand the function of the rules. The anarchy which exists where there are no rules and everyone does as he pleases frightens them as much or more than their teachers. But they understand, accept, and help maintain rules better if they help to make them. In a situation which had been unchaperoned, children asked for a supervisor, and helped make the rules for a better party.

Creative Activity

Children of ages 9 through 11 like to do things for themselves; to think, to explore, to make, to do, to discuss, to share, to evaluate, to try again. Freedom to do, space and time, materials, and a sympathetic atmosphere are what they need most. Given these, they will dramatize, role-play, paint, draw, attempt crafts, write and tell stories and poems, engage in rhythms and musical activities, and try out and improve their own physical skills.

Working against creativity during these years are the children's own critical sense, failure of adults (teachers, parents, and others) to encourage, and too highly ordered and pressured lives for children, depriving them of the time and solitude it takes to nurture creativity. "Children on one block all do the same thing now," said a teacher, "and mostly at the same time. There is little time for a child to be himself."

This was reinforced by another teacher who said one of her 10-year-olds whose life is highly organized outside school came in one morning, dashed to his desk, and quickly buried himself in a library book. Soon after, his group was preparing to go for a rehearsal and she said, gently enough, "Jim, put the book away

and come now." Throwing his book down, this usually good-tempered boy burst into tears crying, "Can't I *ever* do anything I want to?" Reminding herself of his too crowded life, the teacher said gently, "Yes, Jim. Right now. Go on reading just as long as you want to." With a sigh too heavy for 10, the boy settled down to his pleasure.

This case (more dramatic than some, but typical) brought a storm of discussion: Why do we pressure children so? Is it to carry out our own unrealized ambitions? Is it to produce a showpiece? Are adults aware of their own motives and of the outcomes in terms of child development? Can educators help to make children's lives easier? If children are thus pressured outside (and the abundance of evidence is pretty convincing), should schools be leading children to a more simple, less organized type of living, with less competition and more time for relaxation and for individual and voluntary pursuits? No answers were reached. But it may be significant that the conviction was reiterated in every section of our country that the lives of children represented in the conferences are too highly organized and pressured.

Summary

Children of ages 9–11 are alert and are interested in everything in the environment; they want to know about many things.

Most of their interests are broad and fleeting, rather than penetrating and fixed, and the attention span varies.

Increasingly, children from grade 4 through 6 want to know *how*, *what*, *why*, and to find answers for themselves.

Children pursue the facts; they are reality oriented and spend considerable time and effort in finding out "the truth." They are likely to detect a "phony."

Self-confidence wavers, and children look to adults for assurance that they are making satisfactory progress.

Competition is a threatening force to the self-confidence of many children at this time.

They want proof of statements and their confidence in adults wavers.

The quality of thinking improves rapidly. Casual relations become clearer, and problem solving techniques improve. Thinking is most logical in concrete situations and within the range of personal experiences. Most children in grade 6 are groping to clarify certain abstract concepts which affect their own lives, particularly *fairness*, *honesty*, and *loyalty*.

Collecting objects characterizes this period; sometimes collecting leads to studious exploration.

Children need *time* to explore on their own. The pleasure of doing things on their own is very great, especially if the outcomes are approved by "important" adults or peers.

Chapter III

Some Goals for Education in Grades Four, Five, and Six

WHAT GUIDELINES OR SUGGESTIONS for education are found or implied in research for the development of our children? Among educators? Among sociologists? From other sources? Does there seem to be agreement as to the primary purposes of education and about the role of the school, especially in grades 4, 5, and 6?

Major Goal: Good Citizens

The school in any society is created "for the sole purpose of helping children grow up properly," says Havighurst (14). This view is supported by other students of cultures of the world (115). Schools in the United States are not unique in this matter. The major goal here, as elsewhere, is to help children grow up as good citizens of our society (113): Understanding and practicing ways which implement and strengthen our democratic way of life; understanding our cultural heritage and traditions and our present problems and goals; and assuming personal responsibilities for contributing to and maintaining a high quality of living in American homes and communities throughout the Nation and, more recently, for encouraging constructive relationships with other peoples of the world. Achieving this goal with as many individuals as possible, in the various culture patterns that make up our society and in the multiplicity of settings where the schools operate—this is the practical problem the American school faces.

Nurturing Personal Development

The basic and enduring needs which underlie good growth have been pointed up in chapter I. There is convincing evidence that when these needs of children are not met, progress toward society-approved goals is prevented or retarded; the direction of learning may even be diverted toward more undesirable goals. Schools have an obligation, in attempting to help children become good citizens, to try to reduce or remove obstacles which prevent their progress is desirable directions and to increase activities which promote their learning in these directions.

Students of how and what human beings learn have emphasized many points which have implications for teaching.[1] Among these, very significant are the facts that:—

Curiosity leads to interest.
Interest, or attention, leads to learning.
What is learned depends on:—
what the learner now understands or can do
what the learner wants to achieve (his motivations and goals)
the strength of his drive to learn
what are his potentialities for learning in relation to what he is expected (by himself or others) to learn
what is available to help him (or retard him) in learning

The great varieties of differences in all these conditions are the complexities the teacher meets when she attempts to reach one child, and they are multiplied immeasurably in a group of children.

In analyzing the individual growth patterns of many children, Olson says (20):

> Hundreds of growth graphs for children . . . indicate that growth is continuous, that it is stable, that achievement is commonly a part of the total pattern, and that the teacher and curriculum maker must accept adjustment to individual differences as a part of the task of education.

In addition to the growth variation pointed out by such workers as Olson (20), Gesell (12), and Isaacs (84), there are other differences as well. Children come to our schools from many walks of life, from varying social strata; their experience backgrounds over a period of years are different. They also differ in curiosity and the drive to learn any particular thing. Mental

[1] See pt. One, ch. I of this bulletin.

abilities vary within the same individual and from one individual to another. Responses to persons and situations vary. Yet the teacher must attempt to meet the mind—and heart—of every child, in order to motivate and guide him toward learning what the school thinks he should learn.

Some researchers, understanding something of the relationship of childhood education and constructive citizenship, as well as something of the subtlety and intricacy of the ways human beings learn to feel and think, have attempted to help educators see more clearly and in greater detail how the school can further the development of children.

Havighurst, for instance, attempts, as a result of studies of behavior, to merge into "developmental tasks," at various ages, the drives which appear to come from the growth patterns of human beings and from their strivings at particular age levels to meet the demands which society makes upon them.[2] He also attempts to show how a child learns to maintain his own identity or ego as he learns to satisfy demands placed on him, and relates how some teachers are working to help children:

> The elementary-school program contributes in one way or another to the child's achievement of every one of his developmental tasks. Whether consciously designed for the purpose or not, the school curriculum helps or hinders the accomplishment of every task, and every school is a laboratory for the working out of these tasks.
>
> Consequently, it seems useful to regard the developmental tasks as objectives or goals of elementary education, some more important in the school program than others, of course. (14, p. 92.)

The author shows the necessity in our society for working cooperatively with other "training institutions of society . . . in such diverse tasks as learning physical skills, selecting and preparing for an occupation, preparation for marriage, and learning a scale of values." (14, p. 26.) He says further:

> There is no developmental task of children or adolescents which the school can completely ignore, for the reason that the tasks are so closely interrelated that difficulty in one task, which may show in the school, is often tied up with difficulty in another task for which the school has little direct responsibility. For instance, failure in academic work may be due to failure in some other developmental task. (P. 26.)

Raths,[3] in dealing with the eight emotional needs of children emphasizes the importance of the teacher. Starting with the

[2] Op. cit.
[3] Op. cit.

proposition, "if we could develop ways of meeting those needs, then the behavior of children would change, learning would come easier, and the quality of personal and of associated living would improve: there would be better human relations," (65, p. 1) In cooperation with teachers, Raths has arrived at some specific suggestions for teachers, which he calls the "Do's and Don't's of the Needs Theory" (65).

Many studies point up the importance of the learning environment. Early in the 1930's, in describing the results of her studies in causal thinking, Isaacs (84) pointed out the great and ultimate importance of the environment in nurturing intelligent thinking:

> What in fact happens to this basic epistemic concern is an open question, depending upon a great variety of factors. No doubt individual predisposition goes a long way in shaping its history, but a thousand outside circumstances also play upon it, help or hinder it, reinforce or dissipate it, organize or vitiate it. In the long run, indeed, what happens to it is governed for individuals by the type of civilization into which they grow up, but, taken in a mass, it governs in turn the type of this civilization itself (p. 333).

Pointing out that causal relations are really the clues to the control of thinking, and indicating the rapid advances children make in ability to see cause and effect during the age levels in this study, Isaacs says further:

> They (causal relations) become extended to include every kind of relevant or possibly relevant circumstances or conditions or facts of immediate or wider setting; everything which, if it were different, would make any given thing different. Carried right through, causal inquiry becomes, of course, eventually the basis for our most systematic and comprehensive investigation into the constitution and controls, the general structure, of our world; in other words, the warp and woof of science.
>
> How far any child will travel along this road must naturally depend on his own trend of interests as well as on the favouring or unfavouring character of his environment (p. 334-335).

Many studies since those of Isaacs have emphasized and reemphasized the importance the learning environment has for the learner and for the outcomes as well.

Careful action research (112) in classrooms has been encouraged as a recent development in education. From these contributions may come findings which will prove helpful beyond the locality where the research is carried on. Foshay (54), for instance, has helped educators to see that the subtle influences of human relations among children in classroom work to advance or retard such a desirable habit as "follow through"; and that

overt teacher approval does seem to be a significant factor in self-appraisal, and "in all probability, an important factor in their evaluation and acceptance of each other." "We teachers," says Foshay, "occupy a prominent position in determining children's feelings about themselves . . . our moral obligation to keep the classroom prestige system as wide open as possible." (P. 154–55.)

The Goal As Educators See It

Educators, attempting to interpret various viewpoints and suggestions in terms which are meaningful to teachers of children of all ages and to parents, and sensing their responsibility to the developing and individual patterns of growth and achievement, clarify their goal to be that of *helping children achieve continuous development along all lines of growth: The physical, social-emotional, and intellectual toward happy and effective membership in our society* (113). This all-inclusive goal has been influenced by an increasing accumulation of research in human development and learning, emphasizing as it does the totality of growth and learning. This goal seems completely harmonious with American traditions.

Goals Applied To Grades 4, 5, and 6

How can the work of these grades be made to contribute to the development of capable, happy citizens in our society? Research has clarified some characteristics which have particular significance in helping children of ages 9–11 to progress toward mature citizenship goals. Each of these characteristics indicates opportunities the school has for encouraging and continuing the good development of children. By cultivating these characteristics in desirable ways, by helping children to get the greatest values from activities, the school helps children to the next step of maturity in every direction. Among the major characteristics pointed out by researchers are:

- the tendency toward close-knit group life among peers, showing up noticeably in grade 4 and culminating in late grade 5 and grade 6.

Some possible inherent values which lead to maturity are identification and assumption of personal responsibilities; habits of friendliness and growth in skills, techniques, and understanding of interpersonal and intergroup relations; and understandings and processes which contribute to democratic living (6, 12, 13, 14, 16, 19, 23, 59, 70).

the tendency to withdraw from the domination of adults.

Implications for building independence in every direction in personal and group life; for both independent and cooperative planning, for increasing understanding among youth and adults (6, 12, 13, 14, 23, 59, 70).

the tendency to want to maintain individuality as well as to become accepted group members.

Possibilities for strengthening individual resources, contributions, and self-satisfactions according to the needs and abilities of individuals (6, 12, 13, 14, 23, 59, 70).

the unfolding interest in sex.

Implied possibilities for clarifying and learning to accept the roles of men and women in our culture (6, 12, 13, 14, 49, 51, 59, 70, 101, 105).

the "security" need to know the boundaries of acceptable behavior.

Implications for learning to respect agreements, to understand and gain consideration for the concerns and well-being of others, to participate in making desirable regulations for personal and group life, and to gain respect for law enforcement and authority within a democracy (6, 12, 13, 14, 23, 67).

the desire to please others, to be accepted, to be approved.

Implications for self-development in many lines in relation to others (6, 12, 13, 14, 23, 59, 70).

the desire to be active, to learn physical skills, to manipulate materials, to know how things work.

Abounds in opportunities for physical development, for manual dexterity, as well as for increase in understandings in many lines (6, 12, 13, 14, 23, 24, 25, 96, 103).

the desire to be successful.

Implies opportunities for development of all sorts of skills, abilities, and meaningful information. Implies also the need to emphasize success, to understand failure, and to make it possible for children to achieve *continuous* growth in desirable lines of development (6, 12, 13, 14, 16, 19, 23, 25, 37, 48, 54, 59, 64, 99, 102).

the desire to understand, to improve one's own adequacy.

Opportunities for encouraging the exploration and extension of interests, and for encouragement of clear thinking.

the desire to overcome handicaps.

Implications for skill development, for "making up for lost time" in many areas of activity, as well as for learning how to compensate for a real deficiency.

the desire to act creatively.

Implied are opportunities for originality and initiative in all avenues of human expression; for deepening the emotional resources; for extending appreciations.

growth in moral judgment.

In grade 6 especially, opportunities abound to help children clarify concepts of such value words as right, wrong, fair, justice, equality, beauty; to deepen spiritual resources; to cultivate tolerance and understanding of others.

the desire on the part of girls in late puberty (some of them are found in 6th grade) to have definite, well-ordered tasks which do not demand too sustained or intensive study.

Opportunity to lessen the strains of oncoming adolescence.

Summary

The foregoing goals for education in grades 4, 5, and 6 can be reduced to a single objective: To help children meet the developmental tasks imposed upon them by their innate growth drives and by the society in which they live; namely, to grow up capably and happily as individuals and as thoughtful, contributing members of the society.

To accomplish this task, it is necessary:

To utilize for motivation of learning in all desirable directions the overwhelming desire of children, ages 9–11, to be active, to be accepted, to make friends among peers, to become more independent of adults, to explore, to make and do, to acquire values to live by.

To provide environmental influences which motivate good physical, social-emotional, and intellectual growth.

To understand and utilize the differences among children to make it possible for *each child* to grow and to learn the understandings and skills necessary for constructive citizenship in our culture.

The remainder of this bulletin will attempt to show what types of school organizations, environmental surroundings, and curriculum experiences are being used by educators to meet the total needs of children in grades 4, 5, and 6 for good development in our society.

PART 2

Part Two

School Programs for Children in Grades Four, Five, and Six

Introduction

EDUCATORS USUALLY DEFINE the school curriculum as consisting of all the experiences provided under the jurisdiction of the school. Under this concept, curriculum is an all-inclusive term, embracing school plant, school organization, and the environment for living and learning, as well as all the experiences of children in the school, for all of these are under the jurisdiction of the school and all influence what a child learns while he is under the school's supervision. Nevertheless, to simplify our task, part two, chapter I, will deal with specific aspects of organization and environment, and the following chapters with other specific aspects of curriculum.

Part two will reflect in the main the viewpoints of the educators who took part in the conferences of this study, and ideas or descriptions of practice secured during observations of schools in action, or materials contributed by children or educators. Attempts will be made to relate practices to the characteristics of children and to the points of human development named in part one, chapters I and II, and translated into educational goals in chapter III.

Chapter I

Organization and Environment for Learning

INFORMATION FOR THIS BULLETIN comes from three major sources: Basic research about children themselves, reports of discussions in the 40 conferences, and observations in many classrooms throughout the United States.

The organization of the school itself influences children and their learning experiences throughout childhood. In a country as large as the United States and with diversity the common characteristic from community to community and from school to school, whether in urban or rural areas, wide differences in practices are to be expected.

Part I has pointed out that the years when children are approximately 9, 10, and 11 are those about which adults, teachers, and others know less in terms of research than is the case with the years that precede and follow. Parents, once the child has made a good start in school, are somewhat less concerned with his progress than they were earlier. True, they are interested in what his report card says; but because a child in the 9-through-11 age group is relatively more independent, he and his parents are not so close as they were when he was 6.

Some teachers describe grade 4 as a "crucial" grade because it marks the transition to a longer schoolday with more academic requirements. In a somewhat similar fashion grade 6 is thought of as the point when children get ready to shift to another form of organization, especially if grade 7 is in a junior high school setup.

It is important in grades 4, 5, and 6 that the organization of the school place a premium on democratic procedures. Children at this stage of development value the judgments of their peers. Such judgments need to be made within a democratic rather than an autocratic framework.

School Organization

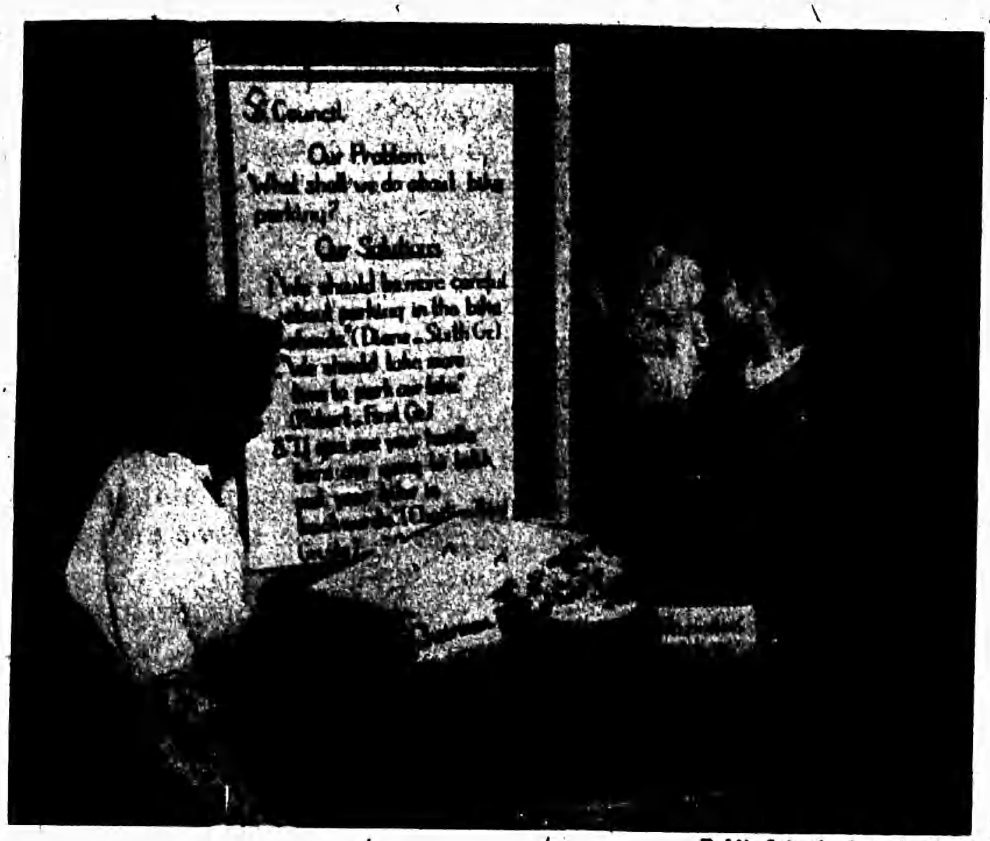
A graded school is a historical fact that must be faced. Originally, it was a helpful device to group children, but today it is sometimes thought of as an albatross that prevents reorganization of the school in ways that would be more in keeping with what is known about children growing up in the culture of the latter half of the 20th century. Some teachers at the conferences expressed a feeling of need to examine the present graded structure. Several comments indicated that nonpromotion brings about nonsocial attitudes, and that double promotions are equally undesirable.

Both favorable and unfavorable evaluations are heard today of departmentalization, which increasingly seems to be giving way to the self-contained classroom from the point of view of policy. But a realistic look shows that departmentalization once introduced into a school is difficult to displace. It is in grades 4, 5, or 6 and beyond that it is most frequently found. One State department of education is attempting on a statewide basis to eliminate departmentalization below grade 8.

Today there are problems brought about by industrialization and urbanization that cause teachers, principals, and other administrators to give careful thought to what constitutes a truly desirable form of school organization. The great mobility of our citizens—1 person in 3 now changes his address each year—sometimes produces a 100-percent turnover of the population in a classroom during a single year.

Few classrooms today fail to feel the effect of mobility. One school with a high pupil turnover provides a "transient" room for grades 1 to 6 for those children who can make a better adjustment to change through assignment to such a room. Another school reports a reorganized reading period daily which enables children of any grade level to secure the type of help they need in reading. Still other schools schedule trips on an all-school basis. Yet another school provides schoolwide workrooms for carrying on activities of a varied nature. Closely related to this idea is that of a hobby hour carried on throughout the school at a time agreed upon by all. In one school organized on the K–12 basis, six groups representing as many levels may meet together in the auditorium for an assembly. In another school, children organized a clothing mart with articles provided by friends. The clothing was distributed free.

Many schools recognize the student council as an important organization which cuts across all classes, with officers elected



Public Schools, Ontario, Calif.

The Student Council is ready to report solutions to the problem of bike parking.

usually from the upper grades. In a council that provides more than an exercise in parliamentary practice, children develop standards and enforce them, officers confer with the principal, and children accept the decisions of the council. One teacher indicated as a postscript to a written description of council activities that some parents object to having their children told what to do by other children!

During this study, observers saw student councils in action holding meetings, campaigning for an election, nominating candidates, and in other ways bringing reality into the experience. In several rooms children in less formal organizations held elections for room responsibilities. They elected a secretary to take charge of lunch money and attendance and chose others to serve as hosts, take care of boards, look after children at the noon hour, and serve on the safety patrol.

Because of the lack of teachers with recent or sufficient experience, or because many teachers have strong feelings about their need for a "break" in the schoolday, schools are experimenting with some type of teacher aid, especially for clerical work. One

school with a staggered lunch period employs housewives by the hour to supervise children on the playground. There is evidence of a shift from using a special teacher in art and music, and sometimes in physical education, to using a consultant who advises the teacher and who may if necessary demonstrate a method of work for her. Increasingly it is recognized that a consultant should and must have skills different from those needed by the classroom teacher. A large eastern city set up 2 curriculum centers, 1 in language arts and 2 in arithmetic, where teachers might be helped to learn to teach the basic skills in more creative ways. Principals gave courses for 300 teachers as a part of this program.

There is some evidence, too, of the use of the intermediate grade unit which would be comparable to the primary unit. Such a unit was developed in one city during the late 1920's and is now being used by several school systems.

Such developments as these, which include organization of schoolwide activities without regard for grade lines, and something that might be thought of as a team approach to teaching, hold possibilities for modifying the concept of the grade as the unit for teaching and learning.

Public Schools, Ontario, Calif.

Both boys and girls help set the school lunch table.

Class Organization

Children in grades 4, 5, and 6 may be organized as a group of the whole for all of their activities. Some schools may modify this pattern only to the extent that they set up 3 reading groups in terms of ability and possibly 3 arithmetic groups. Apparently, it is increasingly acceptable to provide experiences for the group as a whole, particularly in overall planning and evaluating, and in recreational or creative activities. Further experiences of the schoolday in social studies, science, health, and other areas are then carried on by within-class grouping, which is flexible to varying degrees, so that there may be anywhere from 2 to 8 groups, with some children working as individuals. Some teachers completely individualize reading, as well as other activities of the schoolday. As an illustration of individualization carried to the furthest degree, one teacher reported 28 children using 28 different books.

Teacher-Pupil Planning

Through teacher-pupil planning children have a shared responsibility for seeing that learning goes on. They help to develop a flexible schedule, usually planning in terms of large blocks of time. Such large blocks of time lend themselves to large unit planning which by its scope and depth provides for a wide range of ability. In several situations teachers pointed out that in the 6th grade (and one would assume in grades below) planning is on a daily basis, but beginning in the 7th grade on a weekly basis.

Flexible Grouping

Such grouping is brought about in terms of purposes, problems, and needs. Older children may organize to help younger children, younger children to share with older. Committee work may represent the purpose in relation to work on a problem which carries over for several days. The teacher who is interested may also use sociometric techniques as a basis for setting up groups. Several teachers pointed out that in a camping situation in which children from the same school class participate, the pattern of grouping may be quite different from that of the school.

Provisions for exceptional children are made in various ways. It is in relation to this problem that homogeneity and heterogeneity come into the picture. There are illustrations of the use of both bases for organizing classes, but common practice seems to be that of grouping children with special needs, whether handicaps or giftedness, in order that they may be provided for both within and without the regular classroom.

Public Schools, Ontario, Calif.

The Lost and Found Committee in action.

One striking example described a club for weight deviates as a special sort of provision outside the classroom. As evidence of teacher concern about work in groups, the question was raised, "Do the children who need leadership experience get it?" Another comment that seemed to have significance was to the effect that a job once started should be completed if it concerns the group, but not necessarily completed if it concerns the individual only.

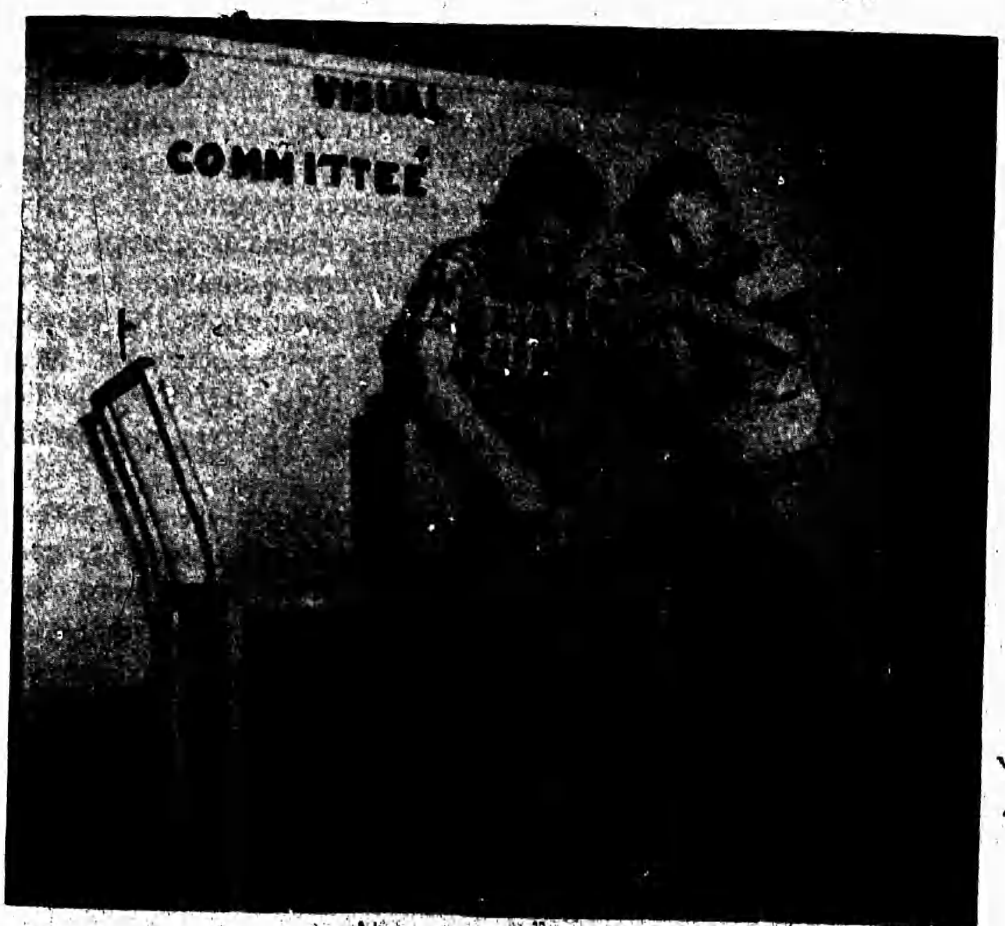
Environment of the School and Classroom

Environment plays an important part in determining the kinds, quality, and variety of learning experiences. Since children, especially those 9 through 11 years old, need to be active, it is important that they have sufficient space. A building all on one floor has many advantages. An auditorium or play room where children can stretch indoors is an important asset. An erroneous idea from the past has persisted and shows up even in modern school buildings. It has been accepted as a fact that young children need space and activity. Kindergarten rooms and 1st-grade rooms are correspondingly large. But when children reach grades 4, 5, and 6, the assumption seems to be that they will work with textbooks in an area with a minimum of space.

There is a trend toward a flexible classroom arrangement. Flexible partitions and portable equipment are among the newer trends. Visits to schools revealed that movable seats are more and more taken for granted. Sometimes these were arranged in

small groups, sometimes in a hollow square or in a double semicircle, but in a number of instances they were still kept in straight rows. It is as important for children of 9 through 11 as for younger children that seats be movable. One 5th-grade teacher reported that he finally succeeded in taking up the old-fashioned fixed seats from his classroom, although the change involved going through the principal to the superintendent and to the board. The teacher did the work himself.

Within the flexibly arranged classrooms teachers provide a wide variety of materials of many types which have educational value. Children select the appropriate ones with teacher guidance. It is important to establish interest centers for "doing" or "centers of imagination." Teachers express over and over again the need for adequate library facilities, both in the school as a whole and in individual classrooms. One teacher pointed out the need to consider both girls and boys in providing for activities. School



Public Schools, Ontario, Calif.

Practical work with the Audio-Visual Committee.

situations, she said, are more adapted to the needs of girls than to those of boys, who do not like too many "sitdown" activities.

Environment That is Good for Children

The characteristics of an environment that is good for children relate largely to the relationship between teacher and children. It is important that the situation be permissive rather than authoritarian. Such a relationship does not mean that children do as they please. Children of 9, 10, and 11 need to know how far they can go in using freedom with responsibility. Children usually behave in terms of a teacher's expectations. How they behave and how they work when she is not in the classroom are the true measures of their interpretation of responsibility. A teacher who knows children of these ages will encourage experimentation, manipulation, and the creative approach to personal or group problems. Her underlying concern will be to offer security; to promote self-confidence, self-competition, and self-development in relation to teamwork; and to release inhibitions.

Such a job calls for a resourceful, understanding, skillful human being. The teacher must be able to recognize and create respect for talents, and to demonstrate that learning is an adventure. She will be aware that the breadth of interests among children of these ages calls for a corresponding number of experiences through hobby or interest clubs; organized community service groups such as Red Cross; school service clubs or groups such as safety patrol, garden clubs, and committees to manage a school store or bank, assist with visual aids used throughout the school, serve as cashiers in the lunchroom, or, on special occasions, help with the care of younger children. All of these activities should be developed on a rotating basis so that many children may profit by the experiences.

The teacher and other adults who work with children—whether principal, supervisor, consultant, aid, librarian, busdriver, custodian, school lunch worker, nurse, secretary—need to give children as much freedom and responsibility as they are capable of taking. It is important that adults be careful to see that the environment has been so set up that children are able to meet expectations that adults and children have agreed upon cooperatively.

Chapter II

Helping Children Develop Social-Emotional Resources

THAT THE SCHOOL HAS A RESPONSIBILITY to help children develop social-emotional well-being was recognized by educators who took part in this study and in the related research. The research indicates that emotional well-being results from a sense of security, a sense of personal worth, and emotional resources which enable the individual to deal with new situations and personal problems. So closely is emotional well-being related to social relationships that they can scarcely be considered apart from each other.

Meeting Basic Needs

Research has shown that:

when the basic needs of human beings are met, the result is a warm, outgoing friendliness and confidence.

when there is a preponderance of unmet needs, hostile actions toward self and others are the result, making it difficult to nurture necessary emotional resources.

the teacher is a significant person in helping create situations which meet children's emotional needs.

Experiences of educators have shown that:

the behavior of children in school indicates that many have needs which interfere with their school progress.

the sensitive and skillful teacher can help children reduce these needs.

the help of specialists is sometimes required to analyze causes and prescribe courses of action.

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The Need For a Sense Of Security

Research has shown that:

a sense of security is found basically in warm and understanding relations within the family, not only during childhood, but throughout life.

in the lives of children at school the teacher is the important figure, having a paramount security role which decreases steadily after early childhood, but still has importance in grades 4–6.

as children move into these grades, the need for greater independence from adults increases dramatically.

with the drive for independence, life with peers becomes important, and acceptance by peers becomes a significant factor in security.

Experiences of educators have shown that:

many children, some more than others, need the help of friendly, understanding adults to achieve satisfaction in their growing independence and peer relations.

the teacher has a role in helping children maintain emotional stability as they increase in maturity.

the teacher's role seems to be to set the stage, create an atmosphere, and provide materials, activities, and guidance which will enable each child to grow (1) in independence from adults (herself and others), and (2) in satisfying relationships with peers.

The Need For a Sense Of Personal Worth

Research has also shown that:

the way an individual sees himself results largely from what persons who are important to him think of him.

in forming this self-image in childhood, the attitudes of parents and teachers play very important parts.

in middle childhood, although the attitudes of adults are important, the attitudes of peers become increasingly important. (Attitudes of adults, parents and teachers, especially, sometimes are reflected in attitudes among peers.)

basically, it must be possible for the child to conclude from the treatment he receives that he is "just all right," or for him to be helped to make himself "all right" without too great strain.

when parents, teachers, peers, and the child himself are harmonious and understanding in what they expect, the child is likely to see himself as a satisfactory sort of person.

when discord or inconsistencies persist among these "very important persons," the child is likely to see himself as an unsatisfactory person—one who causes unhappiness. He is then unhappy, and his behavior reflects this.

Experiences of educators have shown that:

the teacher's role here seems to be to learn to understand a child in his surroundings; to help him set goals for himself (in academic as well as in social-emotional lines) which are desirable and attainable; to guide him and to help him maintain faith in himself as he strives to accomplish these successive goals; and to work with other "important" persons in reaching understandings and appreciations of his problems, efforts, contributions, and growth.

The Need For Emotional Resources

Research has shown that:

emotional resources develop as outcomes of emotional experiences—experiences which involve feelings, imagination, or intensive thought.

feelings and ideas result, adding to or reducing the stature of a person, leaving him better or less able to rally strength to meet circumstances.

a poem or story read, a thought expressed, an understanding pursued, a thing of quality beheld, an event related, an object created, a discussion stimulated, a problem solved, a friendship felt—all can serve to deepen the emotions, coming to light at a future time in terms of deeper insights and higher—or lower—values, or greater—or lesser—stability.

Experiences of educators have shown that:

parents, teachers, other children, and adults have much to do with bringing about emotional experiences.

the teacher's role is probably that of providing an atmosphere in which creative feeling and vital thinking flourish; of identifying objects, events, ideas, or situations which seem to have potentiality for deepening the emotions and of selecting those which should be encouraged or emphasized.

The Role Of the School

The school, then, must attempt to make it possible for every child in grades 4, 5, and 6 to:

achieve successful relations with "important" adults and with peers.

develop a sense of personal worth.

develop social resources which will help him in his interpersonal relations.

develop emotional resources which will extend and deepen his appreciations and help him cope with trying circumstances.

Establishing Good Relations With Adults

Recognizing the importance that good teacher-child relationships hold for child development, many steps were indicated for the teacher as useful in establishing friendly relations with children. Some of these were steps taken by teachers to improve their own understanding and ways of working; some were steps which a teacher may take with children.

Teachers Improve Their Own Understanding and Ways of Working. The first responsibility of the teacher, it was stated, is to be worthy of affection and respect. The teacher in the United States has achieved the relationship of friend and helper to children. The modern child in the United States, said conferees, is not afraid of the teacher. Rather, he is interested in the teacher as a very special human being. He asks the teacher about where she lives, what she does when she is not teaching, whether she is married or single, whether she has children, what are her favorite television programs—even how old she is! "If the teacher is loved," said one group, "children want to be loved by the teacher as by peers." If the teacher is not loved, on the other hand, children turn to someone else for the help they need.

In order to improve their ways of working, some teaching staffs in various schools over the country:

Come together, and with the help of a consultant, analyze their own attitudes and aptitudes.

Study mental health of the teacher and how it is reflected in children, believing that insecurity in the teacher "shuts off initiative in children."

Study child development as a group or together with parents. (Some meet to plan together to discuss how they can help a child in the school.)

Seek to improve themselves in areas of weakness so that they may be better able to understand, stimulate, and guide children's interests.

Learn how to use sociometric devices and other techniques which increase a teacher's understanding of children.

Hold preschool workshop on guidance, grades K–12.

Have a committee which reviews films and books dealing with child development and guidance, reports at staff meetings, and maintains a guidance library.

Building Teacher-Child Relations Early in the School Year. Teachers who were present in the conferences recommended steps

which help teachers and children get off to a good start as school opens. The teacher, it was said, might:

Hold an attitude of friendly acceptance toward every child who reports to her.

Learn all names as quickly as possible and call children by their names.

Help children learn the names of all children as early as possible.

Take steps to show the child—and the other children—that he is accepted as a worthwhile human being.

Give every child opportunity to show his worth to the other children.

Find ways to confer with children individually, beginning with those who seem to need it most.

Bring children into planning as early as possible, beginning with small things and moving to larger things as they gain confidence.

Plan cooperatively with children for a few very simple school social events (mixers) in which all take part: A picnic, a trip, a party.

Take steps to understand each boy and girl in order to become realistic about expectations and interests. Home background, school records, health and attendance records, outside activities, hobbies.

Make use of the sociogram to discover the "lonely" children; take steps to be friendly and to help them win friends.

Working Together as the Year Progresses. As the year progresses, many teachers work continuously in various ways to help a child understand himself and other people. Among activities considered helpful were:

Holding children responsible up to capacity, with "just enough supervision" to encourage improvement. (This was emphasized as a teacher obligation to promote self-esteem.)

Going to a camp where children and teachers lived informally for several days. (Those who participated felt that the gains to both children and teachers were very great.)

Reading "unfinished incidents" to the children, and having them complete the incidents in their own ways, discussing the reasons and benefits or dangers in the various ways. (This more "synthetic" and less direct method came up for considerable discussion as to its merits for developing lasting values.)

Talking out real problems in a group. (This seemed to have high prestige as a method. "Children understand their own problems better through class discussion," agreed one conference. "They find others with similar problems. They understand their own development better. It helps social development and reduces insecurity. Problems don't loom so large if you talk them over with the class or teacher." In some places, guidance counselors give teachers help in using the techniques of group counseling.)

Forming committees in which children work together, each assuming and accomplishing definite obligations.

Encouraging children to "say the nice things you think about people and about what they do."

Having children participate in planning and evaluating whenever possible. (Initiative, appreciation of and skill in democratic processes, increased interests, broader viewpoints, better understanding of personal obligation, and increased self-esteem are some obvious gains for the child when he participates in selecting and planning his own activities and the activities of his class and school, and from thoughtfully evaluating:

How we worked
What has been accomplished
What activities are worth pursuing
What steps should be taken next.

The limits of desirable behavior appear in reasonable light under these circumstances, and child viewpoints have opportunity to be expressed and considered.)

Making inventory of children's problems, for use in parent-teacher conferences to help parents understand children. (One father did not know his daughter was worried because the braces on her teeth cost him so much. A mother did not know that her ridicule worried her overweight child. As a result of talking, the parents understood better and were able to discuss the matters with their children.)

Establishing Good Teacher-Parent-Child Relations. Underlying all the activities of the teacher to establish warm relations with every child is the basic one of becoming acquainted with the child as a *person* and as a *learner*. Teachers should recognize that the home influences every child, conferees stated. Mores and attitudes learned there are more persistent and more demanding than those learned at school. What is the child's background? Does he have opportunity for good reading, beneficial trips, personal projects, group activities with congenial peers, and good talks with home folks where his interests and viewpoints are freely expressed and explored? Do his parents spend *time* with him? Or does he depend on the school for most of the stimulation and exploration of cultural or intellectual interests? Is he overstimulated toward too many activities in his out-of-school life? Does he need help in making choices to limit his activities?

Is the social quality of his home different from that of the teachers? From that of the homes of most of the children? Does he need help in bridging the gap between home and school to learn acceptable social customs—in eating, grooming, language, behavior codes, courtesies, interpersonal relations?

Does he show signs of insecurity? Should he have more than average opportunities to talk with the teacher? If the teacher cannot help him, can she find someone who might help him—a counselor, a nurse, another teacher, the principal?

Can the teacher find opportunity to meet parents informally, perhaps, and then to follow up with a closed parent-teacher conference on the abilities, the weaknesses, the problems of the child?

Parents and teachers need to come together to understand the child, agreed members of one conference after another. The gains are mutual, they felt, but most of all to the children. Parent-teacher cooperation solves many problems.

Problems volunteered by many teachers as the sort they thought important to be discussed with parents included:

The need for children to have responsibilities at home in order to develop a sense of security and worth. (It was recognized that this is difficult in some neighborhoods and some homes; it was considered, nonetheless, important.)

The need for parents to understand and accept the capacities and limitations of their children.

Children's need for rest and proper food. (This pertained to fatigue and restlessness which teachers thought was related to late parties and T.V. viewing on school nights, and to starting the day's work with little or no breakfast. The latter was so prevalent in some areas that some teachers provided a makeshift breakfast and others were considering doing so, although all thought this a duty of the home.)

The need of some children to have guidance in limiting their activities.

Ways in which parents and teachers can share responsibility for the development of children.

The need of children to have some time alone.

The need of children to have a share of the parents' time.

Problems volunteered by teachers as the sort parents seem to want to discuss included:

What should be done about dating at early ages—about going to movies.

How T.V. viewing can be made more profitable.

Whether Jane's behavior problem is normal for children of her age, and if not, what can be done about it.

What is taught in the school.

Whether certain rumors about the school are true.

Children's problems require adult understanding, said one group. Items volunteered by teachers as the sort children want their parents and teachers to discuss included:

What they (the adults) approve in the child.

How he is growing up.

How he is improving or trying to improve, and the gains he is making.

Ways used to bring parents and teachers together are:

The work of the parent-teacher association in holding meetings to clarify the program of the school, or to become better informed about how chil-

dren grow and learn and what they, the parents, can do to help them. (Parents in one school worked out a statement of a "Parents' Bill of Responsibilities.")

Events associated with the classroom: Meetings of room mothers and fathers to learn about the program for the year or to give parents opportunity to examine the work of their child.

Conferences with parents to discuss the progress of their child.

Parents' visits to the classroom to observe the class at work.

Teachers' visits to the homes of the children.

Written reports sent home periodically.

An evening program in which parents experience part of their child's day.

Social-professional affairs such as teas, "coffees," "smokers," and the like, early in the school year, providing opportunity to become better acquainted. (These may also provide opportunity for "talkfests" about common or current problems of parenthood. As a part of such affairs, some groups entered into discussion of dating, movies, parties, television, and other interests.)

Workshops for parents, with a specialist in the area being studied.

Among all these means, by far the highest importance was assigned to conferences of individual parents and the teacher. Here, said teachers, understanding of the child can be genuinely increased, and ways of working clarified. Statements included:

Parents and teachers need to come together to understand the child.

Parents can help teachers, and teachers can help parents to identify and meet the needs of children.

Parents know needs of the child the school doesn't know.

Parents want opportunity to talk over their problems.

Parent-teacher conferences are widely used among the schools in this study, although their value is not recognized in the time schedule of most schools, said teachers. Finding time to hold satisfying conferences is the big problem. Some of the schools provide a certain amount of released time for the teacher; most, however, expect the teacher to complete the conferences outside regular school hours. Released time mentioned includes:

2:30–3:30 three times a year. (The teacher matches this time by extending conferences to 4:30. The remainder are completed on her own time.)

One-half day 4 times a year and 1 evening, making it possible for some fathers to come and for report cards to be given the parents.[1]

One day of released time spring and fall, with a quarterly class meeting of parents and teacher.

[1] U. S. Department of Health, Education, and Welfare, Office of Education, Washington 25, D. C., *Reporting Pupil Progress to Parents*, December 1956, No. 34.

The success of conferences, it was said, depends on effective communication, and this in turn depends on good preparation by teachers and parents, comfortable orientation of parents, and clarification of ideas and feelings. Teachers have techniques to learn, some of them out of the range of present experience. These may include selecting items of importance to communicate to parents, creating an atmosphere conducive to communication, conveying intended impressions, listening with understanding to what the parent says about the child, arriving at two-way agreements, recording the conference, planning followup activities.

Among ways reported as contributing to the improvement of conference techniques of teachers was the workshop or study group held under the guidance of a trained counselor or psychologist, where all aspects are examined, including the advisability of a teacher-child conference before the parent-teacher conference. Several conferees who had experienced such an analysis went so far as to say that children should always be engaged in as many ways as possible in preparation for the conference: In selecting material for the folders, writing explanations, and evaluating their own development. Some even take part in the conference.

Role playing, too, was recommended as a device for improving techniques which affect the psychological aspects of the conference, helping teachers to analyze their own attitudes and procedures in relation to the feelings and reactions of parents. As one teacher pointed out, "Role-playing taught us to *listen* to what parents had to say!"

Parents, too, have been helped to carry their share of the responsibility for successful conferences. Sometimes they have been included in teachers' workshops; sometimes the PTA has helped them organize their own study groups or dramatizations. In several places, the PTA has arranged to take care of young children to make it possible for a mother to keep her conference appointment.

Gains from parent-teacher conferences which were mentioned by teachers are:

> Children come to feel that their parents and the teacher are friends.
>
> Both parents and teachers reach a better understanding of the child and are able to give him more consistent guidance; they team up to meet his needs.
>
> both become more realistic about his needs and about what to expect of him.
>
> both understand better that school education does not always carry over into life out of school.

More fathers take interest in their children's school education.

Parents learn to understand how the school evaluates growth and improvement. This is particularly true where the report is presented to the parents at the conference. Agreement on ways of reporting is often reached.

The good conference, said one group, "helps parents and teachers to accept and love the child in spite of anything."

In addition to these clinical professional conferences in which teachers and parents discuss the welfare of the child, other means were reported as ways of maintaining good parent-teacher-child relations:

A daily report card self-scored by 4th grade children. (Scores are compared with teacher ratings, and the report is taken home.)

Discussion of the regular report card by teacher and child before the child takes it home.

"Back to school" night, when parents experience a part of their child's schoolday.

Business-education days when business people (some of them parents) visit the school, and educators visit business and industries.

Parent participation in school matters: Promotion policies, ways of reporting to parents, curriculum areas.

"Achievement Day," when parents come to examine a folder of their child's work. (A conference is scheduled for a later time.)

Open-house school visiting on invitation or at any time.

Parent help for children's trips.

Help of qualified parents as substitutes when teachers go to visit other schools.

Parent participation in studying. (Teacher sets up one file for parents and one for the children. A race ensues to see who learns the most.)

Joint planning by PTA and student council for outdoor planting.

Room teas for mothers with a child presiding. (Mothers helped in the preparations.)

Roundtable discussion by parents and teachers on science and reporting to parents.

Meeting of parents of K-1-3, then 4-6, then 7-8, then all together, on ways to improve the school. (This led to having a consultant come to answer questions.)

Establishing Good Relations With Peers

Since school life is, in the main, life with peers, the need to help children develop understanding peer relationships pervaded much of the conference discussion. The need for every child of this age to be accepted by a group was well recognized. Activities carried out by the teacher to make this possible included:

Observing personal relations among children.

Using what is known about grouping, in committees, study groups, and the like, to help children gain social satisfaction and increase their store of social skills.

Helping less able—or less-well-accepted—children to prove their value to the group.

Using sociometric devices. (This was considered most useful when applied over a long-range period, with skilled help for persistent isolates.)

Personal counseling with children: listening to their wishes, desires, and revelations of feelings.

Providing opportunities to talk out problems of peer relations and to arrive at ideas for moving ahead.

Utilizing opportunities for talking out the meaning of fairness, justice, cooperation, competition, agreement, majority, decision, and other terms which have significance for human relations.

Feeling Tones And Values

The qualitative aspect of every part of the school's program, whether human relations, academic learning, physical education, creative activities, or anything else, contributes to the building of emotional resources in the form of values, appreciations, and feeling tones. Feeling tones and values may be overtones of daily planning, committee or class work, evaluation, discussions, efforts to solve a personal or school problem, reading—recreational or studied—a quiet, thoughtful time, mathematics, science, social studies, art, music, rhythms, dramatization, play, a happy or unhappy incident, a trip, or any other event or activity. In all of these, resources are increased if, as a result, a child adds to his own perception or depth of understanding in a deeply personal way.

In the description of curriculum experiences, many situations will appear in which feelings and values play an important part. In conferences and in observations, it was clear that many teachers are aware of the subtle and pervading influences which build values. In conferences, such statements as these reflected understanding of these influences:

The Need for Security

Children need to feel that they have their parents' love. We try to work with parents to help them understand their children. We gain in understanding, too.

Children need to feel that their teachers are sincerely interested in them. Only people who like children should be teachers.

Certain children need someone to listen to them sympathetically. We try to provide opportunities for children to talk with us.

The Need for a Sense of Personal Worth

Helping children feel good about themselves involves finding satisfactory ways of helping them meet emotional needs.

The feeling of accomplishment is important.

Every child must have a sense of belonging.

Every child needs to find people whom he likes and can trust in human relations.

We try to arrange situations in our schools so that every child can achieve some measure of success.

We arrange for a wide range of individual differences.

We believe in the concept of continuous progress for every child.

We try to help each pupil reach his potential.

For children who seem to lack confidence, we try to arrange as much reassurance as possible.

The Need To Find Satisfaction in Relations With Adults

(There were many comments dealing with this.)

We do all we can to understand every child and to show him that we like him.

The teacher is not so important to children, 8 through 11, as she is to younger children, but she is still important.

No matter how free or restricting the school is, it is the teacher who makes it so. She is the "permissive agent," the one in charge.

Children don't cling to the teacher so much, but they still want her approval.

Children love it when their parents do things with them. They are radiant when they talk about it.

We try hard to help those children who do not seem to have their parents' love.

The Need To Find Satisfaction in Peers

We do a lot of things in committees. Children like it.

We try to put every child in a group (or on a committee) where he likes somebody.

There is no intention to convey in this report any feeling on the part of observers that they were able to discern the individual needs of children, or interpret the purposes of teacher behavior or its effects upon the children. Observations were far too brief for that. There can be no doubt that nuances, such as a friendly or threatening glance, a word of approval, a question asked, a privilege granted (designed to encourage or discourage) escaped the visitors' notice or were even misinterpreted by them.

Summary

Through good daily living, in which children learn to form satisfying human relationships, understand and cope with incidents in their own lives, and increase and enrich their store of appreciations and understandings, the school helps children develop resources which enable them to advance toward maturity in their social-emotional lives.

Chapter III

Helping Children Develop Intellectual Resources

ALTHOUGH SOME PURPOSES are not equally acceptable to all people in our society as the responsibility of the schools, the purpose of intellectual development of children is almost universally accepted. And it rates a high priority in most schools. Certainly, it is considered an important objective of teaching in grades 4, 5, and 6.

Intellectual Growth and Characteristics

The purpose of this section is briefly to define and interpret intellectual growth, review some of the intellectual characteristics of children in grades 4 through 6 as identified in this study, and describe some of the situations and procedures reported which contribute to children's intellectual growth.

Intellectual development is to be considered here as growth and maturation in the skills of learning as well as in the understanding of concepts, principles, generalizations, and knowledge acquired through the use of these skills. Intellectual resourcefulness will be thought of as wise use of knowledge and skills.

This tentative definition emphasizes two aspects of development —the *processes* of learning and the *products* of learning in terms of information or concepts or, as many people say, knowledge. The processes of learning are, in a sense, the means to uncover and discover knowledge. What is learned of ideas, relationships, concepts, becomes a part of the individual's intellectual equipment. As children acquire more experience, more ideas, more knowledge, they are said to have grown in mental development.

Many ways of measuring children's growth in acquiring knowledge are available. As they gain more knowledge of their culture and environment they are indeed growing intellectually and it becomes an intellectual resource when they know how to use it for modifying their culture and environment. Intellectual resources may be used constructively or destructively in terms of motivation. Ideally, children should use their intellectual resources constructively. And the schools by and large are attempting to help them grow intellectually in constructive ways.

But our definition requires that we think also of increased knowledge about *how to learn* as a part of children's intellectual development. Growth in the skills of learning is evidenced when children improve their processes for investigating, inquiring, exploring, finding out. As children conceptualize and understand the nature of their gains in these skills, are they not intellectualizing them? If so, an understanding of these maturing skills likewise becomes a part of their intellectual growth.

What are these intellectual skills and some of their ingredients? The ability to think accurately, clearly, critically, is at the heart of intellectual development. This ability, or the habit of using it, can be developed only through situations where children have an opportunity to think. The situations in which decisions are to be made, new answers to be determined, or solutions to be arrived at are the context in which thinking skills can be developed and tested. It is in solving or arriving at new levels of understanding of problems large and small that children have opportunities to develop their skills of critical thinking. Some of the aspects of problem solving in which critical thinking skills may be nurtured are:

Identifying and analyzing the problem; locating questions to study; agreeing on what is to be found out.

Offering tentative suggestions as to possible solutions; speculating about possible answers.

Planning ways of getting information and following through to acquire the information. (This should offer opportunities to use a variety of resources for learning—reading, experimenting, observing, talking, conferring with experts.)

Relating experience and newly acquired information to the problem; arriving at an answer or an agreed next step. Checking the answer of solution against other sources or by trying it out.

Evaluating what has been learned through trying out the answers, when possible; deciding such things as "What have we learned?", "What have we yet to learn?" "What remains to be found out?"

The preceding statements summarize the ingredients commonly found in problem solving.[1] As we turn to the reports of educators who participated in this study we shall look for examples of activities and programs that afford opportunities for children to engage in problem solving as interpreted above, and to develop intellectually in the process.

Range and Scope of Intellectual Interests of Children in Grades 4, 5, and 6

Children in grades 4, 5, and 6 demonstrate an unbounded curiosity and a great range of interests. Their curiosity, manifested in the abundance of what, why, and how questions they ask, is high. Their interests are broad, and the drive to learn and accomplish is great. Although their interests are myriad, children are not uniform in what attracts them at any time, nor does every interest encourage or merit extensive investigation. Teachers or other adults who understand children can help them investigate present interests and select some worthy of pursuing. They can also encourage children to investigate new or needed lines of study. Some investigations may become the focus of study for an entire class, some for a small group; others may challenge 1 or 2 children to the point where they want to learn more.

Children in grades 4, 5, and 6, as shown by the quality of their thinking, have clearly made a great advance over younger children in intellectual development. Various evidences of maturity in thinking, are recognizable. Their desire to understand is accompanied by a decreasing gullibility as to what others tell them and by a willingness and growing ability to find out for themselves. They want to discuss subjects. They may question answers and demand proof. They may seek out new information and answers on their own initiative. They show a dramatic, but not uniform, swing away from the fanciful to reality seeking.

The observations noted above are hopeful and encouraging. They show that "children have it in them to learn." However, the school programs for the intermediate grades in many of the visited schools, failed to recognize the increased need and ability of children to deal more maturely and reflectively with problems and issues. For that reason, it seems important to point out that schools must seek ways to give children in grades 4, 5, and 6 more opportunities for real intellectual stimulation and growth.

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[1] Russell's book, *Children's Thinking* (93), discusses thoroughly the many ramifications of thinking, problem solving, intellectual growth and mental development.

Many examples are available to demonstrate that teachers are aware of their responsibilities for helping children develop their intellectual resources and that schools do offer many opportunities for children to do so. The reader will understand that we cannot really measure the intellectual growth of an individual child or of a classroom of children in terms of single illustrations from any given group. However, selected examples are given in the next sections to illustrate the types of experiences that have potential for the intellectual development of children.

Acquiring Knowledge and Skills. Examples of how teachers and children work toward intellectual development in such subjects as arithmetic, language arts, science, and social studies will be given here. Further treatment of how schools help children develop in these areas will be found in the next two chapters.

The attainment of basic knowledge in the subjects remains a primary objective in most of the schools reporting for this study. Many, if not most of them, also recognize that when they consistently apply present-day knowledge about how children learn they thereby help children acquire a greater content of knowledge as well as greater maturity in the skills of thinking and problem solving.

Thus, a teacher of arithmetic reported that she provides experiences that have meaning to pupils in terms of life situations where arithmetic skills are needed. For example, to study money they make use of classroom situations where something is going to be bought. Children bring money which may be used for a class project. Or they may "bank" it with the teacher for future use. Here an important ingredient of the learning situation is the relation of interest and purpose to the learning of mathematics. Having studied money in the context of a class project, the children then go ahead and make up other "money problems" which they solve individually.

Studying arithmetic with a purpose is reflected in a whole array of examples in one school. The children have set up a Red Cross store from which they "buy" articles to fill Red Cross boxes. They publish a newspaper, sell copies, reimburse the school for materials, figure profits which go into a general fund. They have also planned a breakfast at school, made menus in health class, bought, cooked, and served the food to themselves and to guests.

To help children understand the purposes for engaging in certain learning activities, teachers bring children into *planning* at many stages. In a school that needed to build a cement slab behind the school, the children figured how many cubic feet of concrete

were needed, how much sand and cement would be required, and how much the finished slab would cost. They then planned ways of presenting the need and the cost to the school board. They prepared drawings and figures. Their careful work was rewarded by the consent of the board to build the slab. Cement was mixed using their estimates. The concrete was poured. A further satisfaction came when they observed that only a few shovelfuls of the mixture were left over.

In the same school the study of sales bills, grocery and clothing advertisements, and mail-order catalogs gave a real meaning to the study of prices, discounts, and fractions.

Science classes which recognized that science above all consists of investigating, exploring, and researching to get valid information about the universe, provide rich opportunities for developing the skills of inquiry, thinking, and problem solving.

A 5th-grade child brought some pigeon eggs to school. Some children broke the eggs and found embryos developing. This was of great interest to the children and they continued their investigation of eggs and how young birds develop.

A group of children began a study of their environment by observing living things right outside their school. They identified insects, weeds, flowers, They studied buds, rocks, leaves, soil erosion, and other aspects of their environment. Their explorations led them to the river. Here they became interested in fish. They planned a trip to the State fish hatchery. Their study of the outdoors and fish all tied in with an extended study on conservation of resources.[2]

The curiosity of children in these grades was emphasized over and over. Activities which capitalize on this curiosity, nurture it, and at the same time discipline it through constructive and profitable experiences were considered most important. It was stressed over and over that opportunities to do experiments, to see films, take trips, and to engage in other nonreading activities are essential for good learning in science.

School *Science Fairs* were referred to frequently as offering opportunities for children to develop their interests in science along many lines. Participation in Science Fairs requires much class and individual planning. In one school the children listed on the board what their science interests were. Children with like inter-

[2] For a fuller treatment of conservation practices in our schools see: *Conservation Experiences for Children* (Office of Education Bulletin 1957, No. 16). Washington, U. S. Government Printing Office, 1957. 192 p.

ests got together and drew up plans for their projects, carried them out, and exhibited their products. Some of the preliminary questions were: What are we going to exhibit? Will it be an outgrowth of our science units, or individual projects, or both? Who will be responsible for what? How can things be exhibited so they will communicate ideas to others? How shall all attend our exhibits? Then there were questions of evaluation: What did we learn from the science fair? Did we get ideas for new things to study? Were our exhibits and projects good? How can we improve our contributions next time?

Serious consideration of these kinds of questions offers opportunities for children to develop intellectually.

Intellectual Development Through Citizenship Activities and Social Studies

It is clear from the information gathered from the educators and the schools visited that, in good school programs, problem-solving and critical-thinking opportunities are provided outside of, as well as in, the immediate lessons in subject areas.

A good citizens club takes up problems originating in the classrooms. This is a club organized for a class as a whole. When problems cannot be dealt with adequately, the teacher supplements the discussions by arranging individual conferences with children in the group.

Student councils were named frequently as offering opportunities to develop critical thinking. The councils are concerned usually with getting good answers to real and significant questions about school policy and programs. When children know they have real responsibility they will seriously cope with the problems confronting them.

A 4th grade engaged in a study of citizenship in school and in government as well. They developed a unit of study on "government" which called for parent participation. They found much reluctance on the part of parents to enter into the study. Children wondered: Are parents good citizens? The class figured out ways to get them to participate. This episode was interpreted as an evidence that children should be "pushed into learning citizenship responsibilities" so that as adults they would be effective citizens.

A 5th grade studied income tax procedures and filled in the forms. Later some of them helped their parents to fill in their tax forms. The teacher of this group was described as outstanding. He successfully utilized children's interests and helped the children acquire knowledge useful to all citizens.

One teacher reported on ways she used to help children learn skills of creative thinking. She encouraged them to examine the evidence before making judgments. They checked newspapers, textbooks, and other materials for accuracy. They studied ways of recognizing inaccuracies, recognizing propaganda; used reference material in finding answers to their questions, and in evaluating their evidence.

A class developed a study around the contributions of all races. They made the study as objective as possible, based on facts about people of various races rather than on prejudices and unconfirmed statements. The study offered many opportunities for group planning, identification of problems, evaluating the information, and arriving at tentative conclusions.

Television and Intellectual Development. Television programs appear frequently to be the stimulus for excellent classroom discussions about important local, State, and world problems. A television program in one area is planned especially for grades 4, 5, and 6. It is called "Look to the Future." Classes discuss the topics before the program and after. The followup discussions consist of interpretation and evaluation.

Some concern was expressed in one conference, however, that television is responsible for children "with eyes that don't see and ears that don't hear." If this is true, it is the very antithesis of what is needed for their intellectual growth. Much of the evidence, however, indicates that television programs arouse curiosity, raise questions, and supply knowledge which good teachers use with children in school. Television programs have been used as homework in one city. The children are expected to watch "Zoo Parade." One program which featured "how animals protect themselves" was discussed at school and the study was continued as a class project.

Growth in Making Decisions

There was widespread acceptance of the idea that it is important for children to have a chance to plan, to make decisions, and to put their decisions into operation. Many examples are available. In one school children developed the rules and regulations for the school. Children in the classrooms identify problems in connection with the regulations. These problems are referred to the student government where they are discussed. When children know that their decisions are taken seriously and that their rules may be adopted, the results can be far reaching. Children do good thinking.

In one school, reports of the student council meetings are mimeographed and circulated to the classrooms. There is evidence that as children are brought into decision-making they learn to take more responsibility for carrying out the agreements and decisions. The attitude of children toward responsibility was reflected by the children in another school who said, "We work together for our school."

Another school described four specific activities which cut across the school program and give special responsibilities to children: Student council, safety patrols, cafeteria councils, and health councils. In all of these activities there are opportunities to identify problems, propose solutions, get information, try out ideas, and evaluate results.

In several schools children plan with the teacher each day. They give thought to why they are studying certain subjects as well as what they will be doing each day. This enables them to have a clear understanding of the objectives and purposes. The objectives should be reasonable to the children and accepted by them. The teacher has a responsibility, it was pointed out, to assume her leadership and use her professional knowledge in helping children identify the purposes and develop procedures appropriate to achieve them. Children must have many "successful" planning experiences as judged by accomplishment. Pupil-teacher planning, as described, provides also for evaluation—reasons for success, failure, accomplishment, and methods for improvement.

Identification of Problems. Problem identification has been mentioned before as an intellectual skill necessary to the complete learning act. Its importance seems to be recognized especially by teachers who skillfully use a developmental approach and a unit-of-study approach. For example, grades 4 to 8 of a rural school identified various questions about weather which they needed to understand. They listed numerous questions: How can a weatherman predict weather? What are "highs" and "lows"? What is a cold front? What does a barometer reading tell? Having identified these questions, the children knew why they were going to the newspapers, maps, weather bureau, textbooks, and encyclopedias.

The problem approach works in social studies classes as well as in science. Here, too, good teachers report: "The method is to help children identify and solve problems, to develop critical thinking. Living together and solving problems develops fine attitudes and democratic behaviors."

Creativity and Intellectual Development

When children draw on their past experience and present interests and motivations to develop new and original ways of communicating to others, they are demonstrating creative abilities. The processes of deciding what forms of communication to use—dramatic arts, graphic arts or music—and of producing the art forms, offer many opportunities to develop intellectual skills.

In many schools children plan assembly programs as outgrowths of classroom study. They may write dramatic skits, plan and build the stage props, present and evaluate their programs. They use ideas gained in various studies. They paint pictures, draw murals, and make posters. Music and dances, studied and correlated with the "unit of study," become a part of the assembly program. Assembly programs of this type require that children organize and execute ideas.

In one school a 5th grade wrote a short play. Then the class divided into four groups to act out the parts. Each group decided what part they wanted to do, planned it, and acted it out. Every child participated. Several schools reported that 6th-grade children wrote play scripts for puppets (made by the class.) This combined many art and English skills. Some groups dramatized a chapter from a book. Children became the characters and "felt comfortable speaking behind a puppet."

Teachers reported that dramatic experiences, in general, provide for emotional release of children, especially if the creative dramatics are "not for show" in an audience situation.

The relation of these creative-type activities to intellectual development is twofold. First, they are intellectual in their own right. Second, they may often be relaxing or therapeutic in ways that enable children to approach the study of other subjects in a better frame of mind and thereby profit from that study—whether of arithmetic, social studies, or reading.

Information-Getting Activities

The reader will recognize that many of the foregoing descriptions were of information-getting activities. A few other examples will emphasize their importance. Those described as most profitable and rewarding grew out of planned situations in which pupils knew for what reasons information was being sought. For example, the children in one 5th grade who wanted to know where everyone in the class came from—when, why, and how—set up a questionnaire form to get the information. Reference reading would not fill the bill on this type of question.

A 6th grade in their study of foods needed to know how to plan balanced meals. This required much reading, consultation with home economics experts, and a consideration of the physical needs of individuals in the group. This group planned, cooked, and served a "well-balanced" meal.

A variety of information-getting activities are used by the best schools: Reading, experimenting, seeing films, taking trips, observing, and talking to experts. The children understand why they are engaging in the activities or using the particular resources selected because they have participated in identifying the questions to be studied, in thinking about possible answers, and in anticipating what might be learned from various sources of knowledge.

Unfortunately, it must be recorded that in many classrooms visited, children were directed far too frequently into reading and other information-gathering activities without proper understanding of *why* they were doing it or what was to be found out. Children accept this somewhat arbitrary procedure of "doing what the teacher says" because that is what they understand school to be.

Good teachers recognize the widening range of abilities and skills of children in grades 4, 5, and 6. Hence, they provide an opportunity for the children to gather information in a variety of ways. Their teaching procedures reflect the fact that they know children develop intellectual skills and habits along several lines if given opportunities to engage in activities where these are called for—thinking, identifying problems, raising questions, proposing hypotheses, planning, obtaining, and analyzing ideas and information, sorting out useful from irrelevant information, and appraising the results through such questions as "What do we know now?", "What more do we need to know?", "Was our plan good or poor?", "How shall we do differently next time?".

Summary

The intellectual development of children in grades 4, 5, and 6 can, in good situations, progress by great strides. The intellectual curiosity of children in these grades knows no bounds. This fact is of great value to teachers who are sensitive to the assets children bring to the learning situation. Growth in intellectual resourcefulness can be measured best in the behavior of children. As they face new situations do they use their knowledge and skills effectively? Do they think more accurately? Do they develop critical hypotheses? Do they possess the knowledge needed when

they need it? Do they know where to get information? Do they offer solutions based on sound application of relevant knowledge? Teachers can help children consciously evaluate themselves in terms of behaviors implied in such questions. In that way both teachers and children will know what progress the latter have achieved toward greater intellectual resourcefulness.

The chapters that follow will show further how children acquire knowledge and skills in several subject areas. The main purpose of the present chapter has been to show that children's intellectual development is more than simply an accumulation of information, be it facts, concepts, or historical knowledge. Rather, intellectual growth includes maturation in many skills and abilities and to achieve this maturation teachers need to plan specifically so that children will have opportunities to develop these skills and abilities. Developing them cannot be left to chance.

Chapter IV

Helping Children Develop Understandings, Skills, and Abilities Necessary in Our Culture

AN ULTIMATE AIM of the school is to produce persons who have abundant knowledge and understanding and the ability to put these to fruitful use. This implies that in order to be capable a person must not only have knowledge, but must also be skillful about securing and using it.

Skills necessary in our society that are most commonly recognized are "reading, writing, and arithmetic." The present chapter covers reading, handwriting, spelling, functional communication (oral and written), health education, and physical education. Arithmetic is treated in the following chapter.

Improving Ability To Read

Teachers in grades 4 through 6 attempt genuinely to help children continue their development in reading. This is evident to any visitor in these grades who understands the problems involved in the teaching of reading. Improvement in reading printed materials has been attempted in various ways: By grouping and regrouping children to meet technical needs or interests; by structuring reading into successive levels of difficulty and then guiding children from one level to the next as they are ready to proceed; and by completely or almost completely individualizing reading.

Improvement Through Grouping

Children are grouped in classrooms in these grades primarily on the basis of chronological age, without particular attention to

differences in ability except in cases where children are seriously "mentally handicapped." Within this heterogeneously grouped classroom, children are redistributed for reading into smaller groups on the basis of progress in reading, or on the basis of interests which involve reading. Divided according to progress in reading, the groups usually number three; in addition, it is not unusual to find a few children who, because of exceptionally rapid or slow progress, do not fit into any of these groups and are therefore taught individually.

Work is tailored for each group according to the way the teacher sees the children's needs and the way she estimates her own proficiency. As might be expected, some teachers rely heavily on a basic textbook series and accompanying workbooks, and guide children through these, differentiating only in rate of progress. Others plan the program, choosing materials which seem particularly applicable to the need, sometimes preparing materials in order to give opportunity for specific learning.

Generally, assignments directing the study of each group are placed on the board, new words are noted, and questions designed to encourage "reading for meaning" are listed. While the other groups are engaged in study or other activities, the teacher works with one group at a time. Her work with a group includes attention to mechanics such as eye movement, voice span, phrasing, word attack or phonics, vocabulary building, pronunciation, comprehension, and, to a degree, speed. Because the reading is usually conducted in a circle or small group, oral reading is an integral part of the process and "reading to convey the meaning" has an important function.

Another method of grouping has of late become evident. In an attempt to secure greater homogeneity, some schools now set aside a period of time, varying from 40 minutes to half a day, when children from several classrooms (3–6, 4–6, 5–6, 5–8, as the case may be) are regrouped according to their achievement in reading. These groups are then assigned to available teachers. The work observed with these groups ranged from a "lesson" in reading conducted with the entire group, to a variety of lessons "beamed at smaller groups" within the total group, to individualized reading with teacher help.

When the period exceeds 40 or 50 minutes, it is likely to go beyond "reading" to the larger field of the language arts. An advanced group from grades 4 to 7, meeting for 1 hour daily, was observed working in American literature, studying the writings

of Louisa May Alcott. They had found out where she lived, what her house was like, what she enjoyed doing, what she wrote "even when she was a little girl."

About half the group had read or were now reading the Alcott books. Words new to the children included "humanitarian." The child who presented it to the group had looked up its meaning and said, with a sense of surprise, "That's what Louisa May Alcott was!" A discussion followed on the meaning of "appropriate." Children volunteered that it means giving money, giving anything, making an appropriation for roads. A child using the dictionary said it means "to take something—to appropriate"; another, that it means something is right, or appropriate, like clothing.

In conferences where teachers discussed the method of grouping for reading an hour or so a day according to reading achievement, frequent comments from the users of the method were to the effect that "the program has no merit for the average students." There was a difference of opinion about how much it helped the "bright" and the "slow" learners. Most of the programs had been in use only a year or two and had not yet been evaluated in a systematic manner. One school system which had used this method of grouping for 4 years abandoned it on the grounds that it did "too little for too few." Probably the need is for clarifying research that will attempt to determine when and under what conditions this or any other method, such as the popular 3-group plan, is helpful, and when it is not.

Levels of Reading Difficulty

Some schools have worked out or adopted levels of difficulty for children's progress within a classroom or within an entire segment of the school (grades 1–3 especially, sometimes 4–6 also). Children work primarily in the basic and supplementary materials, moving to the next level when ready. In some schools, a rapid learner advances to the next higher classroom at any time he is ready; in others, he remains a year in the present classroom, broadening his experiences through an enrichment program. At present, many school systems are showing on the child's report card the reading level he has achieved rather than a grade in reading. Parents seem interested in knowing the actual accomplishment of their children, and teachers are better able to encourage the slow child to keep up his efforts.

Individualized Reading

Many teachers in grades 4, 5, and 6 have found dissatisfaction with formal grouping for reading and have moved ahead to a

program of individualized work. Under this plan, children may have a great deal to do with the selection of reading matter. Each child is treated as a special, individual person who is learning to read better and who has tastes—and problems—all his own. Said a supervisor, "Emphasis in reading should be stepped up to focus on the individual child, on his capabilities, bringing him along as far as his abilities will permit."

In conferences, teachers using the plan said that children pick out their own books, "with teacher guidance." The books may be readers, reference books, or trade books. The teacher moves about the room and hears children read quietly. Sometimes groups are formed for special reasons. The teacher encourages wide reading by making suggestions, by raising questions, or by introducing children to new books or reference materials.

Many of the teachers using the individualized method have discovered it through their own interest in teaching. One creative teacher, for instance, began this method when a group of mentally retarded children disbanded and she received some of them into her 4th grade. In using primers with one child, she noted immediate gain. Perhaps each has a "right place," she thought. As a result, she experimented, giving children much leeway in the selection of reading materials, and helping each with what he wanted to read. Some needed more help than others in the selection of materials, as well as in the mechanics of reading. All improved so much more in reading and showed such increased interest that other teachers wanted to know what was happening. The school where this happened is now using the method in grades 2 through 8, and with some children in grade 1. The testing program shows approximately the same average score that other schools achieve, but a wide difference occurs in the spread of the scores.

"Does it work with retarded children?" asked an incredulous member of this particular conference.

"Yes, if the material is varied enough. The vocabulary must get down low enough so that the child is not preoccupied with mechanical skill. Skill is not to be ignored, but here it is secondary. It is important, too, to encourage the slow to write *his* experiences, to use *his* experiences, *his* vocabulary, *his* interests . . ."

"Is individualized reading the total program?"

"Well, skills, taste, pleasure, and desire make up the whole program."

"How do you check comprehension?"

"By asking specific questions. Sometimes I remark, 'I haven't read that book. What is it about?' Again, 'That's a humorous book. Would you like to prepare a very funny part to read to the others?' And again, 'Do you think you could tell enough about your book to make some other children want to read it?' Sometimes I prepare questions which require organization of thought. There are many ways to check comprehension.".

"How are groups formed?"

"Around interests and problems. Members of the group may be children who have read the same book and want to talk about it or who need help in a special skill or with the same vocabulary words. We verbalize what we are learning, so children come to know what makes up good reading. Individually, I help each to work on some shortcoming."

Another teacher volunteered, "We team up the slow and rapid learners at times. They help each other a great deal."

"Can individualized reading be used with the slow and bright?"

"To a varied extent. Many children must be helped to gain in reading or encouraged to read materials about science or social studies. But they should read science to learn about science, not to improve reading. The focus must remain on science, even though they need help in vocabulary, comprehension, or any skill."

One school system which encourages individualized reading uses this program:

1. Children complete the readers at their own speed. Then they read widely.
2. Children are tested in reading skills.
3. There is a teacher-child interview twice a week.
4. Children participate in study and discussions at grade level.
5. Questionnaires are used at several stated periods to see what children like or dislike about reading.

Some teachers remarked that they find better success with this methods in not depending on a basic reader, but in using many readers, trade books, and magazines as well. No doubt these are teachers who have become professionally well grounded in the teaching of reading.

For this program, said teachers, the classroom requires a wide range and variety of material: Magazines, newspapers, books about health, science, social studies, literature, chosen to encourage "interests children have or may be led to develop." Reading may be related to unit activities, to other subject matter interests, or to personal interests—for information or for pure pleasure.

Motivation

It was generally agreed that children enjoy reading if material is suited to their interests and ability.

When "units" of work are so organized that they require the use of broad resources, and when these resources are available, children turn to them. The danger, some teachers said, is that children will come to put *too great* dependence on books. "Reading as a way of solving problems is good," said an insightful teacher. "Children should learn, however, that it is only *one* way." Observing, discussing, listening, and thinking are some of the other useful ways.

One teacher uses the device of noting a personalized comment on "small" book reports, such as "Shouldn't you be reading more books?"; "You can read well, but you don't draw well; why don't you try illustrating some of the books you read?" Then she watches for a success sign and makes much of it.

Another finds that telling children what their "expectancy" is in reading acts as a spur. Children like knowing this, and work toward it. Parents, too, like knowing it and can be called upon to help their children grow. This is the greatest reward of the parent-teacher conference.

Children can do much to interest each other in reading, it was agreed. Through discussion in small groups, through their own creative ways of telling about books, they can do a great deal to pique the curiosity of other children. Observation in the schools revealed much creative work centering on literature in the way of artwork, dramatization, and the writing of "impressions" or recommendations for other children. "Required book reports can destroy the pleasure of reading and therefore defeat their own purpose." An example of the brief and challenging book reports some children are writing is this:

> *The Legend of Sleepy Hollow*
> by Washington Irving
> Sleepy Hollow is about Ichabod Crane and the troubles that he had. For one thing, he was chased by a headless horseman.

What child, reading this, would not seek more information!

Reading in interest and friendship groups is itself a motivating factor. In a large city system where children read books of their own choosing ("with guidance," said the teacher), much is made of friendship groups. Speaking of a stammerer who read some science information to members of such a group, the supervisor

said, "He didn't even stammer once," implying that the relaxing influence of friendship made the difference.

Reading clubs draw up standards, such as, "We should read science, biography, history . . ."

Excitement marked one 5th-grade classroom where children wanted to tell the observer how they prepared stories to read to the younger children. Said a child:

> You read at home to your sister or brother.
> You read to your parents to let them help you.
> You read to your classmates at school.
> Then you are ready to read to the little children.

Materials of Reading

Teachers were emphatic that rich resources in reading are a necessity to the development of facility in reading. The principle of "taking children where they are," no matter what the type of organization, was not disputed at any point within grades 4, 5, and 6. "We accept that," was stated or implied over and over. And further:

> But you can't do that unless you have materials that are adaptable to all sorts of interests and abilities. We need basic texts and all other readers we can lay hands on. Sometimes we need a primer in grade 4. Again, we may need a book of 8th- or 9th-grade quality. And, to encourage the habit of reading, we need reference and library materials to enrich children's knowledge in social studies, science, health, and other lines of school work; books and magazines in which they can explore their interests. We need books of literary quality, both the classics and the more recent books of prose and poetry for children, in order to encourage the use of reading as a leisure or recreational activity.

In another conference it was said, "We need many types of reading materials and activities, with many opportunities for children to make choices. Especially do we need more high interest, low-vocabulary materials."

One school with inadequate book supplies took the 6th-grade children (176 out of 180) to the nearby Carnegie Library to select their own books. The children had to be responsible for returning the books on their own. They could read them at home or at school. The first 5 months they read 1,887; the last 4, 3,088. This activity stimulated reading in everything. Seventy-five children had never previously possessed a library card.

The need for a functional school library was emphasized over and over. Where a central school library existed, it was used not only as a stimulus to reading, but as a source for helping 6th-grade children develop skills in the use of a library. Usually a trained

librarian helped classify and shelve the new books. Especially in smaller schools, interested teachers and children of a classroom often served as librarians; less often, parents who were willing or were actually trained librarians helped. So important a place does the central library hold that many schools were improvising them in makeshift areas in the school.

Classroom libraries with reference and recreational resources are also of vital importance to the development of reading skill and good reading habits. Because of space limitations, however, this must be a moving, transient library, calling upon a large center for replenishment. This large center is sometimes at the school headquarters as part of a materials center, with pickup and delivery service provided by the school system and at times the community library supplements the school materials. In rural areas, bookmobiles are welcome visitors, bringing books from a State or county library center.

Reading Maps, Graphs, Globes and Pictures. Records of school visits abound in illustrations of children's efforts to learn more from and about the use of many visual aids. Maps and globes were found commonly, and atlases occasionally, in classrooms, and children were learning to read and interpret these in order to orient themselves in hemispheres, continents, nations, states, and cities. Map symbols were studied, distances (in scales) and time required for various ways of travel were calculated, topographical features were identified and interpreted in terms of their influence on human, animal, and vegetable life. Line, bar, circle, and pictorial graphs showing climatic features, weight scales, barometers, and thermometers were used, sometimes even constructed; strip films, slides, movies, even television were utilized, often experimentally.

Remedial Reading

Increasingly, the work of the remedial reading teacher is focused upon children who are not achieving up to capacity. The way the services of the specialist are scheduled varies, however. A remedial reading specialist sometimes serves a single large school or she may move from one school to another, working daily or several times a week with individuals or small groups of children. One administrator felt that through this service, many children had been "found early and helped to success." In several cities, the service is placed in the lower grades rather than in grades 4 to 6.

In one city, the remedial reading teacher works with half the schools during one quarter, with the other half during the next quarter, and then reverses. Each child in the program receives help 5 days a week, alternate weeks during the quarter. Many have improved. Conferences with teachers, parents, and children are considered important. Sometimes, as a result of conferences parents increase the amount of their own reading in order to encourage their children to read.

A remedial reading teacher at the conference illustrated another way of work. "My services are most valuable to teachers who do not have adequate training," she said. "It is our hope that, with smaller classes and better trained teachers, we can do away with 'crutch' teaching."

It is increasingly customary to refer children who are having serious difficulty for clinical analysis, sometimes for continuing "expert" help. Many central school headquarters in large city and county districts now maintain reading, as well as psychological and health, clinics. When sources outside the school system must be depended upon, as in smaller or less-well-to-do areas, waiting lists frequently defer attention to a point where the child's progress is jeopardized. Nevertheless, outside agencies are used as sources of help and the services they render are deeply appreciated.

Summary

Although some teachers rely on traditional methods of teaching reading, the fact that others have developed high skill in many ways of teaching is evident in the children's reading accomplishments, in the efficiency with which they are able to secure information through reading, and especially in the pleasure most of them take in reading. Especially is this noticeable where teachers teach creatively and where rich reading resources are available. A regular part of the children's training in many schools is use of the school library and introduction to the community library. School reading materials include not only verbal, but also pictorial and graphic materials.

Use is made of children's interests to encourage reading. Individualized reading facilities this, making it possible for children to exercise a degree of self-selection. Their pleasure is intensified by having something to share which the other children do not already know about. To stimulate further interest in reading, the teacher utilizes many outside-school activities, such as television viewing, trips, and other experiences. She provides guidance, individually and in groups, in the needed skills, so that each child

progresses as rapidly as he is able while still maintaining the ability to enjoy and get meaning from the experience.

> The first day of the spelling unit a pretest is given. Children record the words they missed. There is group planning for study and for writing experiences. On the second and third days, the teacher works with the different groups on their common spelling problems, generalizations, and vocabulary development. Individually, the children study misspelled words, work on handwriting needs, write stories, and proofread their stories. On the fourth day, a retest is given. Again, children record their misspelled words and study them. Some of the stories will be shared with the class. On the fifth day, words misspelled in the stories become the basis for a new word list. Individual spelling problems are studied. New goals in spelling, handwriting, and language skills are set.

The established routine for study is:

> Look, say, use, spell.
> Write from memory.
> Repeat until fixed.
> Look for trouble spots.

Individual records are kept, showing words that have been misspelled on the pretest and retest, and in other written work.

Root words are the core of study in some classes of one school system. Children are encouraged to explore and learn the derivatives of words as these are introduced.

Children above average as spellers are sometimes encouraged to learn additional words. One small group observed was busy making a "hard list" for themselves. They had decided that the list for this week would be about "school books and subjects," and the list began: *encyclopedia, social studies, geography, history . . .*

The greatest departure from the customary word list selected by experts is that called the "functional spelling plan." [1] This plan utilizes words selected by the children themselves from their writings and by the teacher as functional writing needs are anticipated. The words are compared with lists of words most commonly used, most crucial. Lists are developed for each ability group; sometimes they are put into a cumulative list with the most able children being tested on all the words. Group membership is flexible to meet individual needs, although group needs are more likely met through greater challenge in more difficult words at higher levels.

Following is a description of the plan:

> In the later elementary grades, grade 4, 5, and 6, a 60-minute period is usually planned for the language arts experiences of composition, handwriting, and spelling.

[1] Minneapolis public schools.

Teachers attempt to meet individual differences by trying to help children build up phonetic ability and word analysis: Testing each word to see whether it is "true to the way it sounds," pronouncing carefully, recognizing syllables, discussing the meaning, finding little words within the word (judging whether these are helpful in spelling it), finding related words, learning and applying a few ground rules which govern spelling, writing the words in sentences, and comparing their results with the correctly written word.

Some teachers and some school systems are using something more than textbooks or workbooks to teach spelling. One teacher, for instance, composes a story weekly, using the words in the spelling list but leaving blanks for the words to be filled in. Mimeographed copies are distributed to the children and as the teacher reads the complete story, they write the words in the blanks. In an effort to make the words functional to the children's needs, children and teacher sometimes select spelling words from the content subjects: Social studies, science, health, reading, or any other. These words may become the complete assignment for the week or may be used as supplements or substitutes for words in a regularly assigned list. Words selected by children and teacher in one 6th grade were *rescue, St. Bernard, monk, brandy, warm, flask, hospice, Henry Dunant, originate, start, organize, strength, frozen, alive.*

Improving Ability To Spell

"The modern charge that children cannot spell is not to be blamed on lack of time spent on spelling," said a recent school visitor in grades 4 to 8. Teachers are conscientious about allowing time and about following the dictates of the manuals whose authors, in turn, draw words from well-recognized word lists based on research and advise what they consider to be the best techniques. But, for many children, results remain short of the goal, evidently because expectations are set too high, or because we have not yet found processes that will guarantee that every child will become a good speller. Children learning to spell, show countless individual differences, and methods devised for groups of children cannot be expected to cover each difference. It is the teacher, with the help of the principal, supervisor, and others, who

must use techniques of individual analysis and must determine what helps the child requires.

Customarily, a class of children takes the assigned lesson, with special provisions for very serious cases. Generally, the children study independently. In some classrooms children were placed in 2 or 3 groups with differentiated assignments, and at times they worked as pairs, helping each other in many ways.

In one class, observed while engaged in these activities, some children were working on stories and others were studying alone or in pairs. One group was working at the board. The lists of words for the various groups were on the board.

Teachers in several schools believe that typing improves spelling —and the ability to compose. With typewriters present, children use them in their practice work, usually on a scheduled basis because there are not enough for all to use freely.

Improving Handwriting

Both formal and informal methods are used throughout grades 4–6 in the development of handwriting skill. In some schools observed, writing is taught by daily, formalized instruction, with master copies of letters or words placed on the board or made available in pamphlets. During a period set aside for the purpose, children copy the models, sometimes to rhythmic count. In many schools, teachers encourage legible writing, help the children at times with letter formation, spacing, slant, and alinement, and lead them to evaluate their own progress. Careless children are informed by the teacher that their writing is becoming illegible. The teacher helps these children develop plans to improve by working alone or with a group. Sometimes a teacher uses an opaque projector, throwing a specimen of a child's writing on the screen and inviting discussion. "The children," said one teacher, "greatly enjoy this and profit by it."

Handwriting specimens in the form of letters, stories, spelling papers, or written paragraphs were frenquently observed on bulletin boards, and sometimes a commercial writing scale was also posted there so that the children might judge the quality of their own writing and select some points for improvement. Commonly, soon after school opens in the fall, the children record samples of their writing in a composition or story. These samples are

placed in the regular individual folders, where child, teacher, or parents can readily look to see the improvement the child is making.

Scriptwriting is prevalent in grades 4–6, although in a few schools observed, the change from manuscript to script is delayed until grade 4. In fact, several schools have such success with manuscript writing that it is now continued throughout the elementary grades. In one city where manuscript writing had continued to the 5th grade, the teacher was asked whether or not the new system made children's papers neater or messier. She answered, "Neater by far, and more legible." When asked whether manuscript writing affected speed of writing, teachers said there was no noticeable difference.

Children usually seem to take pride in their handwriting. In one 5th-grade classroom where obviously the teacher had not confined herself to choosing only the best specimens for the bulletin board, a boy, seeing the visitor stop to examine the work, came bringing a paper in his hand. "That's mine," he said. "This is the way I wrote in September." Although his writing was far from the best, he had improved a great deal and he beamed as he and the visitor picked out some improvements revealed in a more recent sample.

Improving Ability To Communicate

Much attention is given to developing communication skills. Some differences of opinion occurred in conferences as to how much written composition should be required of children ages 9 through 11. There was complete agreement, however, that although oral and written work are frequently interwoven, emphasis should be on speech and oral expression, and both oral and written work should be functional for the child or the group. This principle seemed to be carried out in most of the classrooms visited.

Oral Communication

Informal conversation and planned discussion are high among the school opportunities for the development of skill in oral communication. As in group discussions at any level, the quality of the experience for children varies with (1) the responsibility that a child has to make his ideas clear to the group members, (2) the

responsibility that group members have to listen and think, and (3) the degree of participation.

How a teacher proceeds in group discussions depends upon what she considers to be her teaching role. Many teachers grasp the full significance of this informal lifelike setting and use it to cultivate skills of communication and much more: Good human relations, the common courtesies, and consideration of others' ideas. Such a teacher attempts to become one with the group: Waiting patiently while the children clarify their ideas; asking questions wherever she, in her adult role, thinks they are needed; avoiding the common error of talking *for* the children (and thus depriving them of the opportunity to clarify or to amplify); helping the shy to enter, the dominating to soften, the boaster to come to grips with reality, the tense and rigid to relax; and noting where each child must be helped in his growth. Such a teacher will even withdraw at times, observing from a distance whether or not certain ways of working are becoming part of the children's habits.

A teacher who taught in this way telephoned the principal one morning that she was delayed by a storm. The principal, knowing that the children in that teacher's room were accustomed to going ahead with their work during interruptions, purposely delayed looking in. When finally she did go by to tell them their teacher was on the way, she found them holding their customary planning session for the day's work.

As the principal approached, she heard angry voices. Listening, she realized that the president of the room was on the spot—what for? Apparently for drawing a knife on a child. She shuddered—then found that it was a rubber knife. She relaxed, but still had doubt about the habit being built by such acts. Now—they were going to take his presidency away from him. The one thing Gary needed—to develop in him the courage and steadfastness that he lacked. Should she enter—should she plead Gary's case? "No," a voice, a girl's, said, "I think we are being too hard on Gary. It was partly our fault. Gary was our president and we didn't do anything to help him. We should have come when he asked us to."

Eloquently put. This letting children handle their own affairs did pay off! A boy's voice. "Let's let him keep his office if he'll promise not to do that again!" A chorus of "Yes!" And Gary's head on his desk as his shoulders shook with relief. Well, she would watch him —he would probably be all right. Their own problem, and they had thought it all the way through, on the basis of attitudes and habits developed while they grew and lived and worked.

Public Schools, Concord, Mass.

Sixth graders' prepare to broadcast the news.

What patience it takes to wait for the immature and inexperienced to do as well as the mature and experienced. Planning together, expecting good things to happen, waiting—not interrupting too soon—giving time for thoughts to shape up and for proper words to be found, giving the needed encouragement *and no more*—this is the artistry of teaching. And it is the basis for development of good communication.

"Discussion," says one guide [2] written by teachers for teachers, "is an exchange of ideas with a specific purpose in mind. It often evolves from spontaneous and informal conversation, but develops the purpose of clarifying problems and promoting understandings." This guide presents ideas for conducting good discussions:

Conducting the Discussion: Define the problem. Analyze the problem. Define points needing more information and clarification.

Occasions for Discussion: Planning; solving problems; arriving at decisions; evaluating; setting up standards.

Evaluation: How many persons took part in this discussion? What questions were asked that helped others to explain their thoughts better?

[2] Palo Alto Unified School District, Palo Alto, Calif. *Elementary Language Arts Guide.* 1957.

Did anyone talk too much of the time? Did everyone listen carefully? Did we show respect for the ideas of other people? Did we reach a conclusion?

Listening, or interacting with what is heard, is an intrinsic part of communication. In situations as intense as the one suggested above, where personal involvements are so great, one can be certain that every contribution is listened to by everyone in the group. But in many casual discussions, where inner or outer circumstances may easily distract attention, listening becomes a more conscious and disciplined act, often sustained only with effort. For the reason that personal involvement aids the listener in his efforts to listen, ways of involving him must be sought.

Good teachers are adept at selecting for discussion situations which possess reality for children, and asking such questions as: "What do *you* think about it?" "What else do we need to know in order to make a good judgment?" "How do *you* think it should be done?" "Do you agree with Bill, Louise?" "In your reading, did you come across any other information or viewpoint?" "Where did you look for your information?" (At this point using multiple books is of great value.)

Interviewing skills are studied in some schools. In one school, where interviewing of children by children was undertaken as part of a questionnaire study, considerable time was spent helping children learn how to approach other children, how to listen, and what to remember or record.

The more formalized oral presentations—reports, assembly programs, introductions, and the like—are also studied. The unguided work of children in grades 4-6 in making reports varies according to maturity and ability, going from one extreme to another: From a 2- or 3-sentence report omitting details to a greatly detailed, nonselective report. In the 5th and 6th grades especially, teachers help children build reports, and some children begin to develop considerable skill. Teachers help them locate information, select pertinent ideas, make notes, convert the notes into a report (sometimes through an outline), and devise an interesting way of presenting it. Auditory aids such as tape and wire recordings are helpful as sources for evaluation and as ways of improving articulation, correct usage, and delivery.

Some of the ways that children in the schools visited during this study were finding it important to communicate orally are described below:

There are book reports. Two children who had read *Mr. Popper's Penguins*, for instance, asked themselves some questions about the factual

background of the book, looked up the facts, and presented the report, using a 3½-foot, 2-dimensional cutout of a penguin. Others reported by telling the story to an exciting point and stopping short. Another report was accompanied by drawings, puppets, or shadow play.

A group of children who had made a trip to Fort Lincoln used discussion. They decided that they would also write about the trip.

Children in a 6th grade formed three divisions to keep up with the world, the United States, and local news. Three reporters broadcast the news to other classes over a loudspeaker, recording the program on tape. They invited criticisms from listeners. Using the tape recording, they considered the suggestions and studied the playback.

A 6th-grade New England group prepared a panel discussion on "Our Rights and Freedoms." Each panel member led the panel in a discussion. Pointed out were some of the contributions of Plato, Benjamin Franklin, William Penn, Roger Williams, and Lord Baltimore; and the importance of the New England town meeting as a way of improving the local community.

Dramatics are now used spontaneously in classrooms, not taking time to polish the production for outside audiences. The report is that this does much for oral expression, especially in the case of shy children.

Choral speaking is considered a successful forerunner of independent expression for many shy children. It also provides valuable experience in articulation and timing. One teacher writes, "I use choral reading and speaking to preface an English lesson to teach correct usage and clear and distinct diction. It has proved a valuable aid in teaching spelling, for if a child has correctly and clearly pronounced a word, he is better able to write and use it."

A teacher writes: "To help boys and girls feel more at ease when giving the somewhat formal talks before the class, we have found that if the first assignments for oral work are given so that the child may demonstrate or illustrate what he is talking about, he finds the task much easier. After a few assignments of this kind, he gains sufficient confidence to talk to the group easily without 'props.'"

Another writes: "Knowing how important it is to make new friends and to create the best impression when meeting someone for the first time, we are extending our classroom English lesson on introductions into out-of-school experiences.

"We are learning what to say when introduced and how to make introductions. The pupils are going a step further by seeking opportunities to meet people and make new friends by using an easy approach in introducing themselves. To approach a stranger and get him interested enough in you to want to know you better is quite an accomplishment."

Standards for reports, similar to the following, are frequently developed by the children and placed on charts for ready reference:

We should: Use a good opening sentence. Arrange details in order. Make the report long enough to cover the topic. Leave out unnecessary words and avoid overworking "and," "but," and "so." Use a good concluding sentence.

The children also state the purpose of their reports. One chart showed that the reason for giving social studies reports is to share information. Included on the chart was the following statement:

> . . . a reporter must know where to find information; how to use books: encyclopedias, dictionaries, indexes, tables of contents; how to organize information and how to make his report interesting; how to give important and interesting facts; how to use any material that will add interest; and how to speak before a group.

They clarify the standards for listening, as in the following:

> Be courteous; listen; do not talk, laugh, or do other annoying action; show interest and appreciation; withhold questions until speaker is finished; when asking questions, wait to be recognized; and stand and state questions clearly.

They suggest items to listen for, as in these questions:

> Have words been chosen that were simple and easily understood? Have they (the reporters) made their ideas clear? Have they written stories that would emphasize how Indians in the United States live today?

Written Communication

Functional writing, as distinctive from creative writing, seems, in grades 4, 5, and 6, to be stimulated largely by the need to secure information or materials, to invite or express appreciation, to record or explain, and to keep in touch with friends who are ill or away. Teachers are alert for opportunities to teach children how to write simple social and business letters and to devise ways to challenge interest in making written explanations or in recording. It is not uncommon now to see individual dictionaries in use as children write. One teacher said, "This is the first year we've had them. It is wonderful what children can do with them."

Following are illustrations of types of situations which teachers utilize to encourage the development of skill in functional writing:

A 4th grade group working in committees wrote for information:

---------- School
---------- State
---------- City
March 1, 1957

Mr. ---------- ----------,
President, New England
Crafts Guild,
Concord, New Hampshire.

Dear Sir:

I am in the group studying the glassblowers of colonial times. We

would appreciate it very much if you would send my group some information about glass in early America.

I have found out about the glass factory in Jamestown and how it stopped. I have also read about Caspar Wistar and found out that he made America's first flint glass. I have also read about W. H. Stiegel and about how he was bankrupt during the Revolution. In my reading, I discovered that Mike Owen, who in 1899, after 3 years finally made the first mechanical glass machine.

My group hopes you can send us some information on glass.

Yours truly,
(Name)

A 6th-grade girl who was school secretary welcomed a guest:

The boys and girls welcome you to _____ School. We hope you will enjoy your visit.

A 6th-grade class invited a class in another school to be their guests:

_____ School
_____ Street
_____ City
December 3, 1956

Dear Girls and Boys:

Our class would enjoy having you come to _____ School to share our Christmas fun. We will have games, lunch, entertainment, and show you some of the things we are learning. I think you will enjoy the program we have planned for you. Please come Thursday, December 20, from 10 to 2.

Sincerely,
_____ Class

A school which has adopted a merchant marine ship corresponds with the captain.

Children in many classrooms correspond with children in other schools in the United States and abroad.

In a combination of fact and fantasy, children in a Honolulu 6th-grade class invited their parents to a school affair:

SUPER-SWIFT-WHIZZITS FAMILY AFFAIR
June 1, 1955

Dear Mother and Dad:

"The time has come," the walrus said,
"To talk of . . . cabbages and kings."

Well, not quite or maybe we'll talk about cabbages, but certainly not of kings. Of course you have guessed by now that we wish to talk about our Family Affair.

For the past several weeks, we have been trying to raise money for our

Family Affair. So far we have had project cookies, project auction, and project Kim Chee. From these projects we have made:

P. C.	*P. K. C.*	*P. A.*	*Totaling*
$9.10	$20.28	$30.31	$59.69

Since this is our last year at this school, we want this Family Affair to be the biggest and best *ever!!!* We want to manage this all by ourselves—not only the sharing program, but the supper, too, from "soup to nuts"!

The only help we need from you is to bring yourself, brothers, and sisters, too. All together, we should be about 180 strong.

So save the date:

Wednesday, *June first.*

Please help us make it 100%!!!

Hopefully yours,
Super-Swift-Whizzits

P. S. Please RSVP before Friday the 13th of May.

The lively invitation above evoked some repartee:

A Reply

We love to talk cabbages
With people just like you,
We like to be included
In everything you do!

So count us in on your Family Affair
For we are counting on being there.

(Names)

2 adults No children

A Radiogram

Thank you for your invitation stop
will be happy to attend stop
looking forward to it stop

Sincerely,
Your teachers

PROGRESS REPORT
SUPER-SWIFT-WHIZZITS FAMILY AFFAIR
Wednesday, June 1, 1955, AD, MCMLV
6:00–8:00 PM

Our Family Affair plans have passed the
talking stage,
and this is our *doing* page.

On final counting of "noses,"
We found the number of "roses,"
Numerically to be 91 "young'uns,"
and 95 "old'uns,"
Totaling fourteen less than two hundred——

In discussing how they could receive permission to visit a local industry, 6th-grade children suggested both telephoning and writing to the head of the industry. They decided upon writing because:

It gives us practice.

We can say more.

The person who answers the telephone might not know and might not bother to find out.

The message might not be passed on to the head man.

The head man might be in a conference.

A 4th grade recorded science experiments and illustrated the records in crayon and pencil drawings of a cartoon nature. They made these into books for the reference of other children and of parents. Records included statements about what materials were needed, what the children did with them, and what the children learned.

In many 5th grades, children raise questions about arithmetic, answer them, and report them to the group. These examples illustrate life uses of common processes which the children carefully reported:

On a mercury thermometer, the normal temperature of the body is 98.6°. My friend, Jerry, had a temperature of 103°. How much above normal was his temperature?

$$\begin{array}{r} 103.0^\circ \\ -\ 98.6 \\ \hline 4.4^\circ \text{ above normal} \end{array}$$

Monday the air pressure was 55 high, Tuesday it was 40, and Wednesday it was 35. What was the average for these 3 days?

$$\begin{array}{r} 55 \\ 40 \\ 35 \\ \hline 130 \end{array} \qquad \begin{array}{r} 43\tfrac{1}{3} \text{ average} \\ 3\overline{)130} \\ 12 \\ \hline 10 \\ 9 \\ \hline 1 \end{array}$$

Sixth graders making a study of expansion and contraction asked the custodian to help them. He invited them to the furnace room and explained the heating system. Their teacher helped them conduct an experiment, and each wrote an account of the study. Two of the accounts follow:

How Does Our School Furnace Work?

The steam furnace in our school works like the kettle and the can in our experiment. In place of the hotplate, there is a furnace where gas is burned.

In place of a kettle, there is a boiler, filled with water. In place of a can there is a radiator.

The hot flame makes the water in the boiler change to hot steam. The hot steam rises up the asbestos covered pipes just as it did in the

spout of the kettle. The steam makes the radiator get hot, just as it made the can get hot. The hot radiator heats the room through radiation.

When the steam heats the radiator, it becomes cool and changes back into drops of water just as we noticed the drops of water inside our can after the experiment. The water in the pipes trickles down back into the boiler. A vacuum in the boilerroom helps complete this process.

How Large Is the Moon?

The moon is 2,160 miles in diameter.
The moon is closer to us than the sun.
The moon is less than one-third the diameter of the earth.
When you see a full moon you may think the moon is bigger than the sun, but it is not. It's just that the moon is closer to us than the sun.

Vocabulary

Diameter—a straight line passing through the middle of a circle or other objects.

Earth

1 in.
1 in.
1 in.

Comparative scale

This shows that the Earth is three times larger than the Moon.

Moon

1 in.

Fifth- and 6th-grade children, fortunate enough to have a place where they could go camping and a teacher willing to take them, planned a 3-day trip. They did much talking and writing before, during, and after the event. Planning involved letters to parents for permission, including clarification of details, assurance of safety, and clothing and supplies needed; sales to earn money and notes of appreciation to both those who contributed and those who purchased; clarification among children of purposes; organization of committees; acceptance of the conservation pledge; safety rules; lists of things to take; a map; codes of good conduct; and finally, the camp program.

A book, written as a result, was called *Upham Woods in Story*. Every child contributed his share in incidents, music, illustrations, puzzles, or tests, and information gained. One example follows:

Black Hawk Island

Did you ever go in a boat on the Wisconsin River? My class had the thrill of doing so when we went to Black Hawk Island at Upham Woods.

When we got to the island, we talked about trees. One of them is the Swamp Birch, which grows mainly in Southern United States. It hangs over the river and shades the water.

Then we hiked a small distance and came to a well which had gone dry a few years before.

When we were hiking on the island, we saw many beautiful rock formations. We hiked up to some of the formations to look them over. Some of the formations had caves in them.

There were many Red and White pine trees there. Gosh, but I didn't see any Blue pine trees up there! I wonder why?

After we were finished hiking we went across the river again to eat lunch.

When we got back to camp, I thought: that was a wonderful day!

Children of all grades are enthusiastic about contributing to or helping produce a newspaper or other school publication.

Technical Considerations [3]

Efforts, observed during this study, to help children understand the structure of the English language are made primarily through corrective work for writing and through language textbooks. In some instances, books are used functionally when needed: in others, they provide only isolated exercises. These include recognition of sentences, nouns and pronouns, verbs, synonyms and homonyms, and diacritical markings; written usage of pronouns; formation of plurals; and diagraming sentences—despite the fact that research indicates that practices in diagraming improve none of the language arts except diagraming.[4] Aids to independent study are carefully taught: The use of key words in dictionaries (and other reference books) and the use of the table of contents, index, glossary, reference books, atlases; and, where feasible, simple library skills.

Outlining as preparation for an oral or written presentation receives increasing attention in grades 4 to 6, but remains difficult, even in grade 6, probably because outlining depends on ability to see relationships. In grade 4, teaching is focused on helping children keep the sequence in order. "Think what you are going to tell about first and tell all about it, then tell the next thing." By grade 6, a few more mature children can produce a simple sentence or topic outline independently, and some take pride in doing so. However, for most children it is easier to have the teacher's help in building the outline. Following it in writing is not such a complex matter, and many children are able to do this.

A 6th-grade class was engaged in making an outline of information secured the day before from a film on Mexico. Children and teacher worked together, outlining ideas about art, population, homes, and festivals. At the close, the teacher asked if this was a help. The children thought so, and one child ventured that "next time we might need some help, but not so much."

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[3] Pooley, Robert C. *Teaching English Grammar.* New York. Appleton-Century-Crofts, Inc. 1957. 200 p.

[4] Shane, Harold G. *Research Helps in Teaching the Language Arts.* Washington, Association for Supervision and Curriculum Development, NEA, 1201 16th St. NW. 1955. 80 p.

A 6th grade interested in rocks had previously seen a strip film. They were now reexamining it in order to make an outline to be translated into a written theme. An outline form was on the board:

A. B
1. 1.
2. 2.

The teacher explained, "We will watch (1) for the main idea in each picture, and (2) for interesting details."

In another class, after the children had read and discussed some material the teacher presented an outline form: I, II, III. She led the children to find the three main parts of the material. She then introduced A, B, and C to be placed under these, and helped the children to find details to put there.

No doubt the intricacies of outlining any but the simplest materials must, for most children, await greater maturity.

Summary

There is evidence that most teachers believe that the ability to use language, oral and written, and to listen actively determine to a large extent one's powers to participate effectively in social and intellectual life around him. Consistent efforts are being made by many to help children learn to spell the words they need to write, to write legibly and neatly, to convey ideas clearly and to consider ideas presented by others. Ways are constantly sought to improve the teaching of spelling, although the steadily increasing list of words in our language makes this more and more difficult. Many teachers are adept at using auditory or phonetic, visual, kinesthetic, and functional approaches to spelling. Many also are skilled at using practical situations to improve oral and written communication.

Improving Health Knowledge And Practices

Although educators were unanimous in expressing concern for children's health, they made relatively little mention of it in the conferences on school health programs. Undoubtedly one reason was lack of time. Another reason may be reflected in a comment made in one conference: "We are neglecting health education more than anything else. We know we should do more but don't know what to do."

The Scope of the School Health Program

The total school health program includes: [5]

Health Services directed toward (1) determining individual health status, and (2) taking steps to encourage children to maintain their good health status, to have remediable disabilities corrected, to adjust to uncorrectable conditions, and to develop a positive outlook on medical, dental, nursing, and other health services.

Healthful school environment which makes possible and is conductive to a high level of healthful, wholesome, and safe living.

Healthful school living which is concerned with making school a friendly, comfortable, democratic place where children and teachers live and work together in an atmosphere as free as possible from tensions, pressures, frustrations, and other unhealthful conditions.

Health instruction which helps children learn the *why* and *how* of healthful living through experiences that make sense to them.

Determining Health Interests

The conferees touched upon the commonly accepted ways of getting clues to health interests and needs of young people:

becoming acquainted with the child, his home his community
observing him at work and play
studying health records
being alert to expressed interests and needs
giving health knowledge and attitude tests
keeping up with research

Areas of Concentration in Health Education

A widely accepted statement on school health [6] contains the following suggestions:

> Health education in elementary grades is primarily the classroom teacher's responsibility. At this level, health teaching is directed toward helping children develop and maintain desirable habits and attitudes toward healthful living. The alert, interested teacher may relate much of her health teaching to pupil activities throughout the schoolday and to the interrelationships of pupils to each other and to herself. She may utilize for health education such experiences as: The use of toilet and hand washing facilities; health examinations; weighing and measuring; visits of school health personnel; playground activities; screening tests; the lunch period; and field trips to various community agencies.

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[5] Schneider, Elsa, and McNeely, Simon. *Teachers Contribute to Child Health* (Office of Education Bulletin 1951, No. 8). Washington, U. S. Government Printing Office, 1951. Reprinted 1957. 44 p.

[6] National Committee on School Health Policies of the National Conference for Cooperation in Health Education. *Suggested School Health Policies.* Washington, National Education Association, 1956. 3d ed. 48 p.

Administrators may encourage teachers with a special interest in health to formulate a school health education program for the elementary grades. The advice and assistance of a school health educator or school health coordinator will be helpful.

Since the needs and interests of pupils in the elementary grades vary from day to day, the exact amount of time needed for health education cannot be exactly stipulated. The time allotted to health education should at least equal the time devoted to other major areas of the curriculum.

Recognized authorities suggest that 9-, 10-, and 11-year-olds should have some of the following experiences:[1]

1. *Growth and health.* The medical examination and the regular records of height and weight are excellent springboards for the health education program. The child in the upper grades is interested in the why and how of growth. This will lead to a discussion of growth of the various organs and parts of the body, the function of glands, and the place of inheritance in growth patterns. The boy may be somewhat concerned if he is small for his age; the girl, if she is a fast grower. Mental health and the acceptance of the inevitable will come into the discussion of such differences. Questions such as these will be explored: Why did I grow more during the summer than during last winter? What makes bones grow, and why are some people's bones brittle? Why are most of the girls in the 6th grade larger than the boys? Why are not all 9-year-old children the same size?

2. *Nutrition.* The food interests of older children are different from those of the younger children. The upper-grade child still likes to eat and has various likes and dislikes, but the why and how must now be answered. Food contributes to growth. Even calories and vitamins are interesting and real, especially when learned through a feeding experiment with rats or hamsters. The cafeteria offers many opportunities for problem solving. Where does it get the milk? Can we visit the dairy? Why and how is milk pasteurized? What does an "A" rating for the cafeteria mean? Why can't we have hamburgers every day? Why doesn't the cafeteria have soda beverages? What foods make a balanced diet? May we plan the menu for next week? In answering questions such as these the basic facts about digestion, elimination, circulation, and other body functions are readily acquired.

3. *Exercise, relaxation, rest and sleep.* Upper grade boys and girls like rough and tumble games and strenuous exercise. They ask such questions as: Why do I get tired and out of breath? What is second wind? How can I develop large muscles (boys)? What causes a "Charley horse"? My brother on the football squad trains and goes to bed early. Why? Answers to such questions require information about respiration, fatigue, and the importance of a balance between activity and relaxation.

4. *Personal hygiene.* The older child gradually becomes more interested in his personal appearance. His eagerness to learn why involves finding answers to such questions as: What kind of soap gets you clean

[1] American Association of School Administrators. *Health in Schools* (Twentieth Yearbook). Washington, National Education Association, 1951. 477 p.

the fastest? Is it good for the skin? Why should I brush my teeth? What are dentifrices made of? Where do we get our water? Is it pure? Why is it hard, or soft? Should something be added to help our teeth? May we visit the waterplant, or test the water from our own wells?

5. *Care of eyes and ears.* The vision and hearing tests given at school are meaningful to the older child; 20/20 is not simply a number on on health record card. He is interested, too, in the astigmatism chart and the color blindness test. He examines the school's model of the eye. Perhaps he examines the eye of a dead bird which he finds. He brings his camera to school and learns how it resembles the eye. He learns why it is so easy to get a black eye. In a similar way he learns about the ear and its functions. He notes that his dog, with long ears, pricks them up to listen. He understands how he hears well enough so that he is able to make a model of the ear.

6. *Prevention and control of disease.* The prevalence of colds, an outbreak of polio, or the appearance of any communicable disease which causes many absences will be occasions for solving real problems of disease prevention and control. Isolation, immunization, the work of the public health department all will take on added interests. Children in the upper grades will begin to ask: What is our community doing to prevent disease? What is our part? Is there any danger to health from the rats in our barn? Why did they spray the pond behind our house? All such questions can lead to student research and experimentation within the ability of the groups concerned.

The way one group of 4th graders worked on "Improving Our School Lunch Hour" is illustrative of what is being done in many schools. Under the supervision of their teacher, the children planned, organized, and carried out the entire project. They defined the purposes of their project as:

To make the lunch period an enjoyable time.

To improve eating habits.

To give an appreciation for the planning, care, and work involved in preparing and serving the hot lunch.

The children worked in a variety of ways. Parents, other adults in the community, and the school lunch personnel helped them. The boys and girls assisted in meal planning. They studied foods needed by growing children. They became acquainted with ways foods are stored and prepared, and studied food wastage. They worked with children in other grades.

As the children evaluated their project, they came to these conclusions:

We enjoyed it.

We had a chance to plan things.

We all got to do many things.

We eat more vegetables, fruits, and main dishes.

We have better manners.

We enjoyed having visitors and speakers.

Our lunchtime is better.

We waste less food.

In commenting on the project the teacher said, "Through this plan the lunch hour was almost entirely class directed. Discipline problems disappeared. Class spirit, unity, and initiative were very evident."

In one school visited where most children were from mobile, low-economic families, the visitor was impressed with the children's health and cleanliness. The principal said that this was accomplished through close home, school, and community cooperation. He went on to say:

> The children used to be inattentive, uninterested, unclean, and tired. Discipline problems were numerous. As a school staff we recognized that many of the children were hungry and fatigued. Their lack of cleanliness was appalling. Through community effort we improved and expanded our lunch program. In some instances we provided breakfast, but we don't do this any more because now parents and children feel this is their home responsibility. Teachers developed language arts and social studies as well as health education materials around nutrition, cleanliness, sleep, and rest. Teachers and nurses made every effort to work closely with parents. The hard-to-reach parents were contacted by other parents rather than by the school.
>
> Soon the students took great pride in their appearance and well-being. Older children helped their younger brothers and sisters. It wasn't long until the neighborhood took on a different look. Parents began to make greater efforts to provide a healthful and sanitary environment and more nutritious meals. Discipline problems began to disappear and interest in school grew. People move less frequently now that they feel themselves a part of a community that is good for "their" children.

Fifth graders were observed as they pooled their information on "How Our Public Health Office Helps Us." They had read widely, questioned their parents, and visited the health department.

An examination of the literature sent in shows that some schools stress dental health, eye health, cleanliness, grooming, and nutrition. Among other health education activities included in the curriculum are these:

Keeping pets indoors or outdoors, and observing how they grow under different diets and living conditions.

Studying about what happens to the food we eat.

Planning food to take on hikes and picnics.

Learning more about how our bodies work.

Planning a balance in work, rest, and relaxation.

Keeping the classroom and the school a healthful and safe place in which to live.

Helping with weighing and measuring younger children.

Explaining interesting things about health to other children in the school.

Discussing our health problems.

Making wise choices about health practices wherever we are.

Carrying on "cleanup" campaigns.

Taking part in the Junior Red Cross program.

Becoming acquainted with what the community is doing to protect our health.

Studying about health leaders of the past and present.

Finding out about health in other countries.

Earlier in this bulletin, reference was made to forces in society which expect young people to have interests beyond their maturity. Some parents seem to be urging youngsters to "date" early, to dress like older children, and to assume airs of sophistication. Understanding the physiological and emotional changes that are likely to occur during pubescence and early adolescence is important to children in grades 4-6. There is rather general agreement that parents have primary responsibility for sex education, but many parents feel that the nurse and the teacher share this responsibility. Through cooperative planning, teachers, health personnel, and parents have worked out ways of including family living in the curriculum from the time children enter school.

Some schools show appropriate films regarding human growth to boys and girls in grade 5 or 6. In many schools, parents preview films, and in some, children and parents together view films selected for suitability. Teachers said that in schools where stress is placed on the life sciences and on good human relationships, children easily and naturally develop understandings about growth toward maturity.

Many teachers indicated that health teaching was confined almost entirely to textbook teaching. They regretted their inability to make health more vital and the fact that this was an area in which they needed inservice education. Generally, they felt that health should not be taught as a separate subject. They paid tribute to the excellent contributions nurses make through acquainting teachers with valid resources materials and discussing health problems of individual children.

Safety Education. That children in grades 4, 5, and 6 are interested in safety is illustrated by the following excerpts from several school newspapers and magazines prepared by 6th graders for school wide use:

A good citizen knows and follows good safety rules at all times.

I would like to commend the patrol boys for the excellent way in which they are performing their tasks this year, (Signed by a pupil.)

I have read the special safety edition of the *Siren* with interest. It is encouraging to see what one school can do in this respect (safety education). If other schools would make efforts in safety education as you have done through the safety edition, there is no doubt in my mind that both school and community dangers to children and adults would be considerably lessened. (From a letter written by an outstanding educator to the editors.)

A recent State guide on health [8] suggests the following as desirable outcomes of safety and first aid for grades 4, 5, and 6:

Practice simple rules of fire prevention.

Know proper behavior in case of fire.

Proper attitude toward bicycle safety.

Ability to recognize poisonous plants.

Proper attitude toward pedestrian safety.

Familiarity with safety practices for the playground.

Observe safety precautions at home.

Awareness of fire hazards.

Understanding basic rules for bicycle safety.

Understanding of a few simple principles of first aid (sprains, fainting, insect-dog-snake bites, scalds, burns, blisters, nosebleed).

Avoidance of unnecessary sunburn.

Understanding of safety precautions needed while swimming, boating, fishing, water skiing.

Understanding that electrical equipment must be used with care.

Understand first aid procedure in case of internal poisoning.

Desirable attitudes regarding laws and rules which were made to safeguard safety of all.

Health Services. The health services in the schools visited varied widely from school system to school system. In some, an underprepared, overworked nurse was expected to screen for vision and hearing, measure height and weight, administer first-aid, take sick children home, serve as attendance officer, counsel with parents, and locate medical care. In others, well-prepared nurses in adequate number and with good medical supervision worked with children, teachers, parents, and the community according to policies developed by school and medical personnel.

[8] Florida State Department of Education. *Better Health for Florida's Children* (Bulletin 4–E). Tallahassee, State Department of Education, 1957. 101 p.

Some school systems employ a physician full-time; others, part-time; some, none at all. Dentists serve school systems in various ways, too. One county school district employs a coordinator of physical and mental health, a clinical psychologist, a psychometrist, a nursing supervisor; an adequate number of nurses, guidance counselors, speech therapists; a dental hygienist, and a supervisor of health and physical education. The teachers seek and value the assistance of the various specialists. There is close cooperation among the health personnel of the school, the county health department, the local medical and dental societies, voluntary health agencies, and appropriate fraternal, civic, and service groups.

Educators' concern for the mental health of children is reflected throughout this bulletin. Perhaps at this point the reader would like to refer especially to part two, chapter II.

Improving Physical Skills

Physical education is considered an important part of the child's education in most schools in the United States. Programs based on developmental needs and respect for differences as well as likenesses among children will include many different kinds of suitable activities conducted in a safe and healthful environment.

In a sense, the heading of this section is a misnomer. To be sure, children do improve their physical skills, but the contributions of physical education are many. Mental, physical, social, and emotional well-being is fostered when the leadership is understanding and qualified, the program challenging and suitable, and the environment right.

The conferees in the various parts of the country believed this. They said that physical education is important in the lives of 9-, 10-, and 11-year olds because good programs give children chances to:

better understand themselves.
explore space.
learn to move with increasing efficiency.
gain in grace, coordination, power, strength, and endurance.
be creative.
develop sportsmanship and other qualities of citizenship.
learn more about cooperation and competition.

be on teams.

understand the importance of rules.

develop skills in a variety of activities considered important in our culture—skills to use now and in later years.

manipulate the "things" of play—balls, bats, jump ropes, etc.

use leisure time in afterschool, Saturday, and summer activities.

be outdoors.

"blow off steam."

have fun.

Who Should Teach Physical Education?

"Physical education is just as much a part of the schoolday as is reading, so we should do the teaching, but, of course, we need the help of specialists." This comment made by a classroom teacher reflects the point of view of many of the men and women who took part in the conferences. Others felt that physical education specialists should do all the teaching in that area in grades 4, 5, and 6. Some among this group felt that the plan offers a way of giving classroom teachers a "free" period. Another group believed that classroom teachers should participate with the children and specialist.

Some of the conferees believed that it is not a clear-cut case of specialist or classroom teacher. Rather, children profit most when classroom teachers, specialists, supervisors, and administrators work out plans together which seem best for a particular school or school system. There was complete agreement that the services of specialists should be made available to classroom teachers. The need for inservice education of both classroom teachers and specialists was highlighted in some conferences.

A recent study on physical education in elementary schools[9] based on data reported by 523 school system in cities with a population of 10,000 and over, indicates that:

85 percent employ special teachers, consultants, or specialists in physical education.

62 percent provide inservice education in physical education for classroom teachers.

How Often Should Children Have Physical Education, and for How Long?

Remembering the "activity-demanding" children "back home," the educators said children should have physical education daily, but . . . Lack of time, space, and materials was the chief obstacle

[9] Schneider, Elsa. *Ten Questions on Physical Education in Elementary Schools.* Washington, U. S. Government Printing Office, 1957. 29 p.

to daily programs in some schools. A few said, "Perhaps it is more a lack of willingness."

Professional leaders in physical education believe that the minimum daily *instructional* period should be at least 30 minutes in length with *additional* time for choice or supervised play.[10] Integration of physical education with other areas in the curriculum also is encouraged.

In many school systems represented by this study, children do have a daily instructional period of 20 to 30 minutes, with time to get "out" and "in." In some, less time is allowed: three 20-minute periods a week; two 40-minute periods; four 25-minute periods; two 30-minute periods, and so on. There were quick nods of approval when it was suggested in one conference that the ideal toward which they should work was a daily period *plus* "choice" or recreation time.

When Should Physical Education Be Taught?

Desirably, when the children need it. Yet, limited space and materials sometimes make it impossible to have a flexible schedule. There is merit, too, in having the space scheduled, since it is not possible to teach physical education when all the children in the school are on the playground at the same time.

Some teachers indicated that they give children opportunities for a change of pace in the classroom: Sometimes through quiet games; sometimes through rhythms, stunts, or exercises.

In one 6th grade classroom observed, the children craved physical activity after concentrating on social studies. They pushed the tables together, placed their chairs on top of the table, connected the phonograph, and danced with amazing success. They were ingenious in their use of space as they created individual movement patterns, and then adapted square dances to the irregular space available to them. After 15 minutes or so, they were breathless but refreshed and ready to tackle knotty arithmetic problems.

The teacher explained that the pupils' interest in dancing grew out of an "experiment" in movement. During a long siege of bad weather when they had to stay indoors, the boys and girls had been discussing physical fitness and wondered which activities would be best to help them become more fit. After trying many kinds of activities for varying lengths of time, they decided that

[10] American Association for Health, Physical Education, and Recreation. *Physical Education—An Interpretation.* Washington, National Education Association. 16 p.

dancing was the most "demanding" indoor activity. To them it meant greater joy and fitness. There were several large girls, one very tall boy, and many small boys in this particular classroom. No one was embarrassed by differences in size, since the children worked alone or with partners in small groups.

What Is a Good Program of Activities?

Anyone who has watched 9-, 10-, and 11-year olds knows that they rarely walk if they can run, and that even running is annoyingly slow sometimes. They like to jump, climb, tumble, hang, swim, rest—in other words, to play hard at many things. Play is not just for the sake of fun, although that is an important element; rather, they work diligently to perfect their skills. Usually they want to become skillful in many activities, to test the range

Public Schools, Detroit, Mich.

Having fun with child-made play equipment.

of their abilities, and stretch as far as possible the abilities they have. Therefore, it is important to provide a wide range of experiences in physical education.

The conferees said that the program should be varied enough to appeal to *all* children, not just to those with special talents. From what was observed in the schools and contributed in the conferences, it can be said that throughout the country the same

general types of activities are included in the school physical education programs:

opportunities to practice running, jumping, climbing, throwing, passing, catching, batting, kicking, skating, skiing.

group games, such as brothers and sisters, three deep, crows and cranes, release, tail dodgeball, bear in the pit, club snatch.

team games, such as newcomb, bat ball, kick ball, pin, end, and line soccer, softball, keep away, end ball, boundary ball, ring toss.

dual or small group activities, such as tether ball, horseshoes. deck tennis.

relays, such as corner spry, crab race, medley, over and under, rescue, farmer and crow, kangaroo.

self-testing activities, such as chinning, pushups, situps, coffee grinder, fish-hawk dive, forward and backward rolls, jump stunts, headstand.

aquatics when possible.

rhythms and dance—creative dance, folk dance, square dance.

According to the conferees, there is widespread interest in folk and square dancing on the part of both boys and girls. Said some, they like the chance to be together. Whenever this comment was made, further support was given to the belief that boys and girls of today like to play together at least part of the time. The girls do things just about as well as the boys, and the boys seem to enjoy some games and relays more when the teams are mixed; this was said over and over again. However, there are schools in which boys and girls are separated for all activities except dance, in the belief that this arrangement strengthens the program. Most leaders in the field support the premise that boys and girls together should take part in activities that are culturally suitable.

A few schools are fortunate enough to include swimming in the program for at least some children. In one school system, 5th graders swim twice a week in the county-owned pool; in another, swimming is included in the program beginning in the 1st grade.

In some schools language arts, the social studies, music, art, and movement are integrated. One group of 6th grade children studying the development of timepieces were observed planning a program for their parents. Working in committees, they had done research, made paintings, and written descriptions. They had worked out movement patterns to trace the history of timepieces. By way of illustration, some of the boys decided to be "hour-glasses." Working in two's of approximately the same size, they stood back-to-back with elbows hooked, thus facing in opposite directions. One boy leaned forward and the other leaned backward against the first boy's back. The one who was leaning forward pulled with both arms and the other pushed from the floor,

Public Schools, Cleveland, Ohio

Children enjoy testing their skills.

rolled over the first boy's back, landing on his feet. The boys reversed positions and repeated the action. Their movement was controlled, smooth, and convincing.

Another group of boys and girls were "Big Ben." To the accompaniment of percussion instruments played by their classmates they created a pattern involving different levels, tempo, direction, and movements. One got the feeling of the hugeness of "Big Ben" with its coordinated and intricate parts working in a synchronized fashion.

Children Share in Planning and Conducting the Program

"It makes 4th, 5th, and 6th graders feel good when they can help plan what they are going to do," was a note that ran through the conferences. They have chances to do this in some schools. They work in squads. A captain stays at a station. The children rotate from station to station. At one, they may work on accuracy throws; at another, on stunts; at another, play a game; at yet another, work on apparatus. The captain or leader helps the children, and they help one another. The teacher moves from group to group.

The children like to be responsible for equipment, to referee games, to serve as scorers. They enjoy looking up games and explaining them to their classmates. There is an almost endless number of things they can do—both the fast-learning and the slow-learning.

Extra-Class Activities

The study on the status of physical education in elementary schools mentioned earlier in this chapter indicates that some schools sponsor recreation (physical recreation) clubs for children of elementary school age. A large number sponsor intramural activities. The recreation programs include clubs which stress folk dance, square dance, swimming, and recreational games. Some of the activities in the intramural program for girls are *cage ball, newcomb, kickball, line soccer and soccer;* for boys, *touch football, soccer, track, swimming, and softball;* boys and girls together, *horseshoes, badminton, relays, square dancing, and swimming.*

Most conferees expressed the belief that intramural programs satisfy the need for competition for most children. Programs included activities similar to those mentioned above. The educators felt that children in the middle grades could assume much of the responsibility for planning and conducting the program.

Some classroom teachers recognize the value of recreation and intramural activities, but indicated that the programs probably are most successful when special teachers of physical education or leaders in recreation have responsibility for them. Other teachers provide such programs for their children, seeking help from the high school physical education personnel when no more immediate specialist service is available to them.

In some communities the high school physical education teachers work with elementary-school children on Saturdays and during the summer months. There was agreement that these specialists make their greatest contribution when working with the elementary children if they understand their drives, motivations, capacities, and feelings.

The school has responsibility for making it possible for all interested children to take part in the recreation and intramural programs—this means the "bus" children, too—said the educators. Consequently, some of the programs are scheduled for 8:30–9 a.m. Both boys and girls seem to enjoy the play days and sports days arranged for them. In some communities these are sponsored annually; in others, more frequently. Usually parents help transport the children and the latter assume much of the responsibility for conducting the programs.

The following item taken from a publication prepared by the students in one school describes a typical play day:

> Friday afternoon, June 10, the third annual Play Day will be held on our playground. Our school will play host to the 6th-grade boys and girls of (three other schools). A get acquainted and play time is planned for the entire afternoon. The assembly will open with all gathered around the flagpole for a flag-raising ceremony . . .
>
> The boys and girls will then line up and the games will start. There will be eight courts of play: Volleyball, three-man dodge ball, quadruple dodge ball, relays, and dashes. Each period of play will be of 20 minutes duration and there will be 8 rotations. At the conclusion of play the team having the highest score will be the winner and receive an appropriate award. The teams will then line up for refreshments served by (our) school.

The Interscholastic Program

Most of the schools represented in the conferences do not sponsor a highly organized program of competition in sports. The educators pointed out that this did not mean that they were unaware of children's need to learn how to compete against others. They indicated that it was their awareness of this need that made them shy away from programs which place undue demands on children. Said they, "As far as sports go, we believe children

are fulfilling their desire for competition through the instructional physical education classes, intramurals, play days, and sports days." Many leaders in elementary education, health, growth and development, and physical education share this belief.

Among the comments of conferees who represented schools sponsoring interscholastic programs were these:

> When the competition is controlled and put on an educational basis, there is little danger of harming the children.
>
> Competitive athletics should be under the program of the school, not downtown people.
>
> For elementary-school children, the interschool play should be confined to a single school system.

The following excerpt on competitive athletics [11] should be of interest to school and community leaders:

1. All children should have opportunities to develop skill in a variety of activities.
2. All such activities should take into account the age and developmental level of the child.
3. (*a*) Athletic activities of elementary-school children should be part of an overall school program. Competent medical supervision of each child should be insured.
   (*b*) Health observation by teachers and others should be encouraged and help given by the physician.
4. Athletic activities outside of the school program should be on an entirely voluntary basis without undue emphasis on any special program or sport, and without undue emphasis upon winning. These programs should also include competent medical supervision.
5. Competitive programs organized on school, neighborhood and community levels will meet the needs of children 12 years of age and under. State, regional, and national tournaments, bowl, charity, and exhition games are not recommended for this age group. Commercial exploitation in any form is unequivocally condemned.
6. Body-contact sports, particularly tackle football and boxing, are considered to have no place in programs for children of this age.
7. Competition is an inherent characteristic of growing, developing children. Properly guided it is beneficial and not harmful to their development.
8. Schools and communities as a whole must be made aware of the needs for personnel, facilities, equipment, and supplies which will assure an adequate program for children in this age group.
9. All competitive athletic programs should be organized with the cooperation of interested medical groups who will insure adequate medical care before and during such programs. This should include

[11] Committee on School Health, American Academy of Pediatrics. A Report on Competitive Athletics. *Pediatrics*, vol. 18, No. 4. October 1956.

thorough physical examinations at specified intervals, teaching of health observation to teachers and coaches, as well as attention to factors such as: (*a*) Injury; (*b*) response to fatigue; (*c*) individual emotional needs, and (*d*) the risks of undue emotional strains.

10. Muscle testing is not, per se, a valid estimate of physical fitness, or of good health.
11. Participation in group activities is expected of every child. When there is a failure to do so, or lack of interest, underlying physical or emotional causes should be sought.
12. Leadership for young children should be such that highly organized, competitive programs would be avoided. The primary consideration should be a diversity of wholesome childhood experience which will aid in the proper physical and emotional development of the child into a secure and well integrated adult.

School Camping

Children in any grade usually "just can't wait" for next year to come so they will be in the next grade. Reasons for this impatient and hopeful anxiety vary, but when there is a school sponsored camp program there is practically 100-percent agreement that a most wonderful thing to look forward to next year is the week at camp.

Several communities included in this study promote camping or outdoor education programs during the school year. In some, all 6th-grade children go to camp for a week; in others, 5th graders. In still others, 4th graders are included.

One of the conferees reported that schools in his area had the use of a camp located in a National forest and maintained by the city-county camp commission. The commission provides a well-qualified staff of counselors who work closely with the schools which come to the camp.

Sixth grade children go to camp for a week. They do a great deal of planning in the classrom to get ready, and then, in a sense, the classroom moves out of doors. About a hundred boys and girls go to camp at one time, so children from different schools get to know one another. In most cases, classroom teachers accompany the children. A great variety of resource people are available to help the children and their teachers become acquainted with the wonders of nature, to work on conservation, to do a great variety of things that can be learned best out of doors.

A Forest Preserve Camp in one locality is made available to schools for 1 week each year. Fifth-grade children, their teachers, the assistant superintendent of schools, and the nurse look forward to this week. The forest preserve personnel are very cooperative.

Most children and teachers find the week at camp full of rewarding experiences. Somehow, they come back to school feeling as if they are better human beings with increased respect for one another.

Evaluating Progress

Teachers said that they were sensitive to the gains children make in their own physical skills and in respecting differences; to their gains in ability to get along together, controlling tempers, assuming leadership roles, accepting critical comments, helping one another, and being patient; and also to the other ways that show up more clearly in physical education than in some other areas of the curriculum.

Several groups of 4th-, 5th-, and 6th-grade boys and girls were observed working in physical fitness tests devised locally. No effort was made to compare the child against others; rather, a self-improvement record was kept. Usually the tests were such that the children observed and scored one another. The teachers were always quick to point out that although this part of the program was important, it was only *one* phase of a broader and more inclusive "whole."

Many school systems are studying the total physical education program from kindergarten through grade 12 in an effort to determine whether boys and girls are having sufficient opportunities to develop such aspects of physical fitness as speed, strength, agility, power, and endurance. There is a feeling that in some instances a few games and sports are overemphasized. The value of these activities is not questioned, however.

A few States and some counties have developed physical performance tests. The American Association for Health, Physical Education, and Recreation is conducting a nationwide inventory and appraisal of physical fitness of American youth from grades 5 through 12.[12]

[12] American Association for Health, Physical Education, and Recreation. *Journal of Health, Physical Education, and Recreation*, vol. 28, No. 6, September 1957. Washington, National Education Association.

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Chapter V

Helping Children Understand Their World

ONE OF THE JOYS of working with children in grades 4, 5, and 6 comes from their great eagerness to "find out" about the world and to increase their own abilities to "find out," said many teachers. Although children's curiosity leads to all subject matter areas in the curriculum, most children find the major portion of the answers they seek in science, social studies, and mathematics. In the broadest sense, science gives answers or insights into the *what* and *how* of the earth and universe—even into human behavior; social studies explain the story of man's activities, past and present; and mathematics reveals certain measurable or predictable events; health and physical education help us maintain healthy, vigorous bodies. Each area contributes to fundamental knowledge. Within each area are facts to be learned, skills to be developed, viewpoints and problems to be explored, and puzzles to challenge the fullest and brightest minds.

Experiences In Science

The potential contribution of rich science experiences to education of children in grades 4–6 was voiced over and over in the conferences. "Children like science" was a common theme. They like to participate as members of a group making investigations. They like to work in committees on projects. They enjoy doing experiments. They are very curious. They like to prepare for science fairs. Many children in these years have science hobbies. With little stimulation they bring their science interests to school—descriptions of what they have seen on television, places they have visited, stories they have read. They like science fiction.

A 5th-grade teacher vouched for the interest of children in science when he said, "I'm sold on science to the point where I believe that any 5th-grade kid who was given the choice of seeing 'Dragnet' on television or a chance to do an experiment with test tubes, would choose to do the experiment. Science, not television, would be the winner."

Why teach science in grades 4, 5, and 6? A reason overwhelmingly accepted was that through science experiences many interests of the children can be met. In addition, science can be used as a means of developing reading, mathematical, and other important skills.

However, several conference groups and school systems stated the purposes and goals more formally. One school system stated them as follows:

Science teaching helps children—

1. Gain ideals, understandings, and skills essential to becoming good citizens.
2. Understand generalizations which they can use in solving some problems in their environment.
3. Grow in ability to solve problems effectively.
4. Develop a scientific attitude by: (*a*) being open minded, (*b*) not jumping to conclusions, (*c*) using reliable sources, (*d*) not being superstitious, (*e*) being curious, careful and accurate.
5. Gain an interest in and an appreciation of the world in which they live.

Five statements seem to embrace the purposes most commonly suggested for teaching science in grades 4, 5, and 6:

1. To help children develop problem-solving techniques and skills in answering questions about the natural environment.
2. To help children learn more about the natural world around them. (This includes a study of physical forces, living things, the earth's surface and space beyond the earth.)
3. To develop behaviors and attitudes consistent with the methods of science and based on truth as now understood.
4. To provide hobby and leisure time activities. To open up interests which children can pursue on their own.
5. To stimulate interest and intellectual growth in other subjects and skills, particularly communication skills. (Through participation in science activities children in many instances find incentive and interest in reading, writing, spelling, and other skills.)

What is Taught in Science

Many of the cities and counties represented in this study have rather complete curriculum guides in science. A special study would be required to analyze or present the wealth of material

available in these guides. The science experiences reported in the conferences were usually illustrations of attempts to take into account the characteristics of children in grades 4, 5, and 6, rather than descriptions of the science curriculum for these grades. However, printed materials collected from the conferees include samples of curriculums designed to give continuity to children's experiences in science. In the planned programs, broad areas of the natural environment are agreed upon for study purposes. In one city, these are such areas, for example, as plant and animal life, the earth, space beyond the earth, and machines and energy. In another city the broad areas are living things, earth and sky, machines and energy, and conservation. In still another they are living things, earth, space beyond the earth, weather and climate, and machines and energy.

Once the broad areas are indicated, the plans then suggest concepts for development. Some plans suggest concepts for each grade in each area; others, concepts for primary, intermediate, and upper grades. Still other plans suggest study of certain areas in specified grades such as 1, 5, and 8. Or 2, 4, and 6. In most instances considerable flexibility is expected in the way a particular teacher with a particular group of children will deal with the problem area.

In the best programs there are opportunities, also, to develop science learnings from unanticipated events in the life of the classroom, school, or the community. Children's interests are whetted by unusual or emergency situations and as a result studies are often launched. The migration of geese, a tornado, a snowstorm, the construction of a new building or an electrical power dam may serve to stimulate a study. Sometimes the study develops into a full-fledged unit. Other times the study is brief and transitory. In any event, most schools do not consider that science activities growing out of such unanticipated happenings can be considered the total science program. Rather, they supplement the sustained program which is based on a planned science curriculum. In grades 4, 5, and 6, children are able to plan and study larger and more sustained science units than in earlier grades. They need to experience science as something more than fragmented bits of exploration about miscellaneous things.

To show how one school gives direction to its science program, an outline of the 5th and 6th grade plan is given below. Ten broad principles serve as a base for the separate grade programs, and subprinciples are identified for each. The ones developed in

the upper grades are different from those developed in the primary grades. Furthermore, the learnings are organized in grade groupings of K–2, 3–4, and 5–6. Since this type of plan may be found in a good many schools, it will be presented in some detail.

Some Principles To Stress in 5th and 6th Grade Science

I. *The physical environment affects living organisms*
   1. Different plants and animals live in different communities.
   2. Factors in the environment determine where plants grow.
   3. When the conditions of a region change, only the hardiest plants will survive. Animals will migrate, adapt to changes, or die.

II. *Living things are adapted to exist in their environment*
   1. Living things reproduce their kind.
   2. Living organisms are adapted for food getting.
   3. Animals and plants are able to survive seasonal changes.
   4. People adapt to changes in climate.

Public Schools, Minneapolis, Minn.

Keys to Science: Observing, and explaining what happens.

III. *Living things depend upon each other*

1. Some animals and plants are harmful to us.
2. Some animals and plants are useful to us.
3. Man has produced many new varieties of plants and animals.
4. Man has upset the balance of nature.
5. Conservation attempts to restore the balance of nature.

IV. *Man has learned to care for himself*

1. Man's nervous system makes him aware of the environment.
2. The human body must have certain foods for growth and energy.
3. Certain vitamins and minerals are necessary for good health and growth.
4. Certain habits are beneficial to man's health, his appearance, and his well-being, and to the well-being of others.
5. Man should try to make his community as healthful a place to live in as is possible.
6. Narcotics and stimulants are injurious to health.

V. *Microorganisms are harmful and beneficial*

1. Most microorganisms are useful to man.
2. Some microorganisms cause colds and other diseases in man.
3. Man has learned how to control the growth of some microorganisms.

VI. *The universe*

1. There are many galaxies besides our own.
2. The solar system includes six types of heavenly bodies.
3. Man hopes to discover more and more about space and its bodies.

VII. *The surface of the earth has been changing for years and years*

1. Scientists have several theories concerning the origin of the earth.
2. The appearance of the earth has changed many times since its beginning.
3. The causes and characteristics of earthquakes, volcanoes, mountains, glaciers, rivers, and other physical phenomena are explained by scientific theory.
4. The earth's processes are still continuing.

VIII. *Weather and climate help to determine the behavior of man*

1. Different areas of the earth have different climates.
2. Changing conditions of atmosphere cause changes in weather.
3. Weather changes rapidly; the climate, slowly.
4. Scientists can predict with reasonable accuracy what the weather will be.

IX. *Man learns to use natural forces to improve his way of living*

1. Increased knowledge of the forces of air helps man.
2. Electrical forces are being harnessed by man as his knowledge of them increases.
3. Light energy helps man.

4. Heat energy helps man.
5. Atomic energy helps man.

X. *Man controls and makes use of his natural resources*

1. Most natural resources when used cannot be replaced.
2. Soil, water, forests, minerals, and wild life are man's most important resources.
3. Forests protect man against floods.
4. Water is a resource; heat must be conserved.
5. The country's wildlife and its natural beauty should be conserved.

One school system which recommends a study of *Space Beyond the Earth*, for all grades, suggests the concepts for study in each. The *concepts* are somewhat more specific than the subprinciples in the example above, and those for the 5th grade are given below:

1. The sun is larger than the earth.
2. The sun shines on one part of the earth's surface after another due to the rotation of the earth.
3. The sun shines on the other planets besides our own earth, and and makes them visible.
4. The sun is one of billions of stars.
5. Stars shine with their own light, but planets do not.
6. Planets reflect light from the sun.
7. Some planets are visible from the earth.
8. There are eight planets besides Earth in our solar system.
9. Planets, planetoids, comets, and meteors revolve around the sun.
10. The moon moves around our planet every 29½ days.
11. The moon seems to change its shape at different times of the month.
12. The tide is the result of the moon's pull on the surface of the ocean and of the bays, gulfs, rivers, and other waters connected with the ocean.
13. The moon is smaller than the planet Earth.
14. The moon is a sphere without water, air, or living things.

Science Experiences of Children in Grades 4, 5, and 6

The day-to-day experiences which children have in science breathe life into the science curriculum. A number of examples of science projects, experiences, and activities described at the conferences will give an indication of the kinds of science experiences children are having in the middle grades.

In a rural area a group of children studied corn smut, a disease of corn. They examined large pieces of the smut and studied the spores. They talked about weeds, how they spread and how they may be controlled. They decided to bring samples of weeds to class. This was the beginning of a series of experiences to help

children appreciate man's dependence on plants but also how some plants may be economically detrimental.

In a northern community another group of children likewise studied a plant important in our economy. They planted in a coffee can a cotton seed brought to the school by a visitor. The seed grew into a plant and was kept through the summer by a neighborhood family, who returned the plant to the school in September. It bloomed. Children in this school thus had a firsthand acquaintance with a cotton plant although the nearest cotton field was probably over 1,000 miles away.

A 4th grade introduced a study of machines by assembling a great array of toys and household utilities including mechanical trucks, dump trucks, electric trains, bicycles, spring alarm clocks, electric clocks, hammers, etc. They pursued two questions with regard to each of many machines: (1) What makes it go? (2) How does it work or help us?

A 4th-grade class kept science notebooks which included a section on "true statements." They wrote statements in their notebooks and after each recorded the source of information used as authority. Usually the authority was one or more science books. This type of activity was designed to help children develop the habit of having evidence to support their statements or beliefs.

The problem approach to study of the environment is well illustrated by the procedure of a 5th-grade class in its study of the atmosphere. With the encouragement of the teacher, children identified many questions that seemed important to them. These were listed on a large chart.

Does air have weight?
Does air occupy space?
What is air?
How far up does air go?
Why does air stay around the earth?
Does air get thinner as you go up?

Children selected books and experiments to help them answer these questions and sometimes copied in their notebooks experiments they had tried at school and at home. From observations and reading and from other experiences they answered their questions.

A 5th grade became interested in the various types of gases in light bulbs and colored electric signs. Many parents took their children to various parts of town to see them. One father got materials from the public utilities company for demonstration and brought them to school.

A 5th grade discussed Benjamin Franklin's experiments with electricity. The story of the kite and key by no means satisfied the children's curiosity about how electricity works. Someone wanted to know what to do for a bedroom lamp that wouldn't work—even after the bulb was changed. This led into a demonstration by the teacher (who knew how to repair lamp switches) of dismantling and putting together a table lamp.

The children decided they would make their own lamps. Everyone brought a glass jar. They filled the jars with plaster of paris to make a heavy lamp base. Then they put together the wires, plugs, sockets, bulbs and, finally, shades. The lamps worked. The teacher who reported this activity concluded thus: "Somewhat dangerous for children so young? With careful supervision they will become more conscious of the caution and safety required by such a project—more so than many adults in their electrical excursions."

Are manmade technological developments really new? This question preoccupied one class as they studied a great range of man's inventions. Their approach was to get evidence on a statement which one youngster had made: "Whatever man does exists somewhere in nature." Thus they studied such things as aqualungs, bathyspheres, schnorkels, rockets, and the counterparts to these inventions in nature. For example, they showed pictures of a watertight, basket-type insect web. The insect could dive below the surface of water. This was a provocative and interesting line of inquiry with many possibilities for extensive research and exploration.

The installation of dial phones recently in one city stimulated a study of telephones. The local company representative brought several to the school and the children used and studied them. Then they took a trip to the company office and subsequently developed reports and experiments on how telephones work. These reports and experiments were shared with parents and other visitors on Parents' Day.

A 6th grade studied the question, "What Makes an Airplane Fly?" A number of experiences (including reading, demonstrations, talking) had led to some "conclusions" which the children recorded:

Air is real.
Air occupies space.
Air has pressure.
Air has weight.
Wind is air in motion.
Moving air exerts less pressure.

On an individual basis children spent a period of the day doing "experiments" on behavior of air in motion. Each youngster had his own worksheet—at the left, directions; at the right, space for notes: observations, questions or answers to *what happened and why*. Such experiments as the following were suggested:

1. Hold a piece of paper in your hands so that there is a slight fold resembling the leading edge of a wing. Blow evenly across the upper surface. What happens to the paper? Why?
2. Fasten a ping pong ball to a string and suspend it. Blow downward parallel to the ball. In which direction does the ball swing? Why?
3. Place a card in front of a lighted candle. Blow against the card. In which direction does the flame move? Why?

International Geophysical Year and Science Activities

The designation of the International Geophysical Year (IGY) during 1957–58 stimulated a great many classes to relate their science study to one or more of the problems being explored by scientists. A 6th grade developed a world map which showed where on the earth different IGY problems were being studied. This class centered their study on the weather—atmosphere, clouds, winds. Just as scientists in the IGY program made careful observations of weather throughout the world, so the class made instruments and measurements of weather elements in their community.

The launching of manmade earth satellites during 1957–58 further stimulated classes of children across the Nation to study about outer space, rockets and jets, space platforms, satellites, our solar system, and other topics suggested by man's current attempts to understand and control outer space.

A 5th grade centered their study on rocket travel. This started from their interest in a manmade satellite recently launched. They studied the relation of gravity to the speed of satellites in orbit.

A 6th-grade class studied the different kinds of rockets about which information was available. They collected all the pamphlets and books on rockets they could locate and from these built up their own "textbooks." Both boys and girls built models of the various types of rockets. They studied the types of fuels being used and those proposed for the future, pointing out advantages and disadvantages of each type. They built a model space station and studied the problems man would have to deal with living in outer space. The study became very comprehensive—laws of motion, atmosphere, our solar system, rocket construction and launching, and the like.

A 6th grade made a study of astronomy and noted particularly the orderliness in the universe. They learned how stars are counted and how certain star patterns can be predicted hundreds of years in advance. They were awe inspired by this experience.

Still another 6th grade developed a rather comprehensive study on airplanes, weather, and satellites. The beginning questions they listed to guide their study were recorded in the true spirit of scientific inquiry:

> **What we want to know about airplanes:** *What makes a propeller pull? How does a helicopter rise? What are the main parts? What are parts of a double-decker plane? How does a jet motor work? How much fuel does a plane take? What materials are used in making planes? What kinds of planes are there and what are their uses? What keeps a plane up? Where are planes made? How do they weigh a plane? What are the controls and how does the pilot operate them? How are planes balanced? How does a jet seat work? What is jet fuel composed of? How do planes take off? Can any plane go around the world without refueling? How is a plane refueled in the air? How does the automatic pilot work? How high will the new Boeing 707 fly?*
>
> **What we want to know about the weather:** *What forms clouds? What is weather? What are weather instruments? What are weather conditions? What is a weather gauge? What makes the following: Lightning, thunder, sleet, rain, fog, hail, dew, snow, smog, hurricanes, wind, tornadoes, cyclones, and typhoons? Why do they name hurricanes after women? Why, after rains, do the worms come out? Can you really see a rainbow? How does a balloon rise?*
>
> **What we want to know about airports:** *What services can be had? How are planes brought in at night? How is air traffic regulated? How do they communicate from ground to air? How do planes stay on the right route?*
>
> **What we want to know about satellites and ICBM's:** *How are satellites made and fueled? Are satellites overrated? What are the uses of ICBM's?*

The approach to the study of science implied by these questions—an approach requiring much research and thoughtful discussion—seems to have great promise for achieving the objectives commonly stated for teaching science.

Meeting Special Needs and Interests

In many 4th-, 5th-, and 6th-grade classes the variety of science interests among the boys and girls is recognized in the planning. Not all the children are engaged in the study of the same thing at the same time. At least seven somewhat different aspects of a broad science unit occupied the children in one class. Groups were organized to investigate (1) "our mysterious universe," (2) the constellation system, (3) the atmosphere, (4) man in space, (5) how rockets are made, (6) testing stations for rockets and space-

ships, and (7) insects. Many of the girls went into this last group, whose study did not fit too well into the total study theme. However, the insect study was meeting a special interest for them.

In still another class, groups were studying (1) meteorology, (2) botany, (3) medicine and the systems of the body, (4) geology, and (5) waterpower. Skillfull teacher guidance enabled all the children in these groups to gain a great amount of knowledge in the several areas.

Science clubs sometime meet a special need. The club may include all the children of a grade and at times it is a special interest group. In a club consisting of an entire 4th-grade class, the interest was rock collecting. For one meeting, the teacher prepared a study guide, *Calling All Rock Puppies*, whose cover read: "What is a rock puppy? A young rock hound, of course! Wouldn't you like to be one?" The guide suggested questions to study about rocks.

School museums offer opportunities for children to study and organize science resource materials in a variety of ways. Children themselves plan and develop the school science museum in some schools. According to a report on one school, the children in grade 6 published a newspaper which announced the monthly change of exhibits and invited children from other grades, as well as parents, to visit the museum. Children in this school are encouraged to investigate in the museums. For example, the question, "Is this an arrowhead?" prompts children to go to reference books to look up the answer.

Many schools provide certain science experiences as part of the enrichment program for gifted children. Sometimes these children organize a group on the basis of interest to study a science topic more thoroughly than other children of their age would study it. One 6th grade in a study of atomic energy was apparently considering very complex and difficult questions, as indicated by a list of words and phrases on the chalkboard: Structure of the atom, isotopes of hydrogen, binding energy, radioactivity, atomic numbers, transmutation, electron shells, ions, fission, fusion, chain reaction. The children were engaged in reading, discussing, experimenting, and making models and drawings related to this area of knowledge. Their study challenged them to study and think at a level which stretched their eager minds.

A few schools have a science laboratory, or workroom, available to all classes. One such laboratory reflected the variety of science areas being studied. Here were salamanders, shell collec-

tions, model ship, model eye, telegraph and crystal radio sets made by the children; slides, tapes, and posters about the solar system, a wooden model of a rocket launching. The classrooms in the same school likewise reflected science activities. Schools with science rooms usually expect the major science program to be carried on in the classrooms, the laboratory serving as a place to work when special facilities are needed.

In one community school, children have the use of a commercial laboratory every Saturday morning. They go to the laboratory for science experiences with adult leadership.

Some Unsolved Problems

A number of questions, concerns, and unsolved problems about teaching science were frequently mentioned in the conferences. Often what was a problem to some conferees had already been solved by others.

Some of the common problems were:

1. *Single or multiple science texts.* The opinion of many was that multiple texts, reference books, and other resources on different levels, particularly those which suggest experiments, help teachers meet children's needs and achieve variety in teaching.

2. *The science interests of boys and girls.* Are the science interests of of boys and girls the same or different? If different, what subjects or topics are of special interest to each group? One conference group showed considerable agreement that girls' interests differ from those of boys. Yet interests do not always follow differences of sex. Often girls are forced to go along in science classes on topics set up by boys for boys. Research is needed on interests.

3. *Motivations and rewards in science.* The science fair movement is growing and a common concern is how to recognize achievement and quality. Some schools give prizes, some give ribbons. Other schools evaluate the exhibits and give constructive helps to the children on how to improve. In general, the conferees thought, exhibits which grow directly out of regular class science studies do not need special awards. When pupils work out special projects just for fairs, they often expect prizes. There was much disagreement among conferees as to the best type of motivations and rewards.

Summary

The overwhelming evidence from teachers of grades 4, 5, and 6 at the conferences is that children in these grades either have developed or can develop a great interest in science. To stimulate and nurture this interest requires a program rich in a variety of activities planned with the purposes clearly in mind. Teachers in these grades throughout the Nation are seeking help in teach-

ing elementary science in order to learn how to develop a suitable program, making it more than "just reading." Many school systems are developing science curriculum plans that will suggest the areas for study and the major concepts which children should learn in each grade.

The plans of the best schools attempt to keep in the foreground the all-important idea that science for children must be a series of experiences in which they inquire, investigate, experiment, observe, think, and use all resources at their disposal to acquire and test knowledge that will help them understand their world.

Experiences In Social Studies

"Social studies include social living and subject-matter content." This idea was supported in effect at all the conferences. The purposes and goals of the program as reflected in the conferences are:

> to help children broaden their perception of the social aspects of the world they live in through helping them understand the needs of people and how they act to satisfy these needs, and the causes and effects of human behavior;
>
> to help children clarify their concepts of what they, as individuals, can do to create environments which enable all to live happily and constructively;
>
> to help children understand the values which our country cherishes, and help them clarify the role of the individual in achieving and maintaining these values.

Learning by Living

The elementary school is looked upon by educators who participate in this study as an institution which teaches about democracy as a goal of our country and helps children "learn by living" what the concept implies in daily living. The school provides an opportunity for developing attitudes, habits, and skills which lead to a realistic understanding that democratic living exemplifies the eternal search for betterment in every line of living, and is most accurately expressed in the processes that lead to betterment for all people concerned.

All-School Activities. In many schools, from the time children enter they study the school's immediate social environment to see "how we can live and work and play together more happily."

All-school organizations, such as student councils, engage them at once and continuously in the identification of problems and activities which concern the whole school, and in attempts through discussion and agreement, trial, errors, and successes, to reach effective action. The children's ideas are tried out: Evaluation of the processes guarantees that, in time, improvement will come and the children will have learned important lessons of how to plan, carry out, evaluate, and improve their ways. As they advance through the grades, their environment broadens, until eventually they come to see themselves as important and responsible members of a community, State, Nation, and world.

Classroom Activities. In the classrooms, too, democratic principles are lived. Teachers make an effort not to dictate to children —except under physical danger, unavoidable routine, or emergency. Rather, children help make the routines, laws, and other decisions which govern their lives; help evaluate the worth of these measures; and help to modify them to accommodate "good living." They plan together as an entire group or in committees for room arrangement, weekly or daily schedule of activities, points of interest to be pursued in the various studies, ways of working or playing, events or activities to be carried out. This constant (but not tedious) involvement of children by the teacher and principal encourages the development of foresight and personal identification which nurtures responsibility and critical judgment.

When applied to the exploration of "subjects," *teacher-pupil planning* of this sort has the added advantage, many teachers said, of avoiding the artificial barriers and unrelatedness of subjects, for children do not think in "subjects," but rather in the "wholeness" of an experience. As a result, the activities which children suggest may flow in any direction, giving a teacher many valuable clues to interests and approaches for motivation and follow-through.

Social Studies and Related Activities

Content. Content in the social studies includes primarily the subject matter of geography and history, but it may reach out into any other field as information is needed, or as the desire to express an idea gained in social studies causes the learner to seek effective ways of making ideas clearer. Curriculum guides or courses of study usually prescribe content in large areas for each grade, and point out the major expected outcomes. Both content and outcome are generally determined by committees which repre-

sent the entire school system, and as a result are well understood and accepted by teachers and are harmonious with the principles of good child growth and good teaching and learning.

Within the broad areas, teachers are free to analyze the needs of the children they teach and the possibilities of the curriculum, and to guide children through rich experiences designed to bring them the greatest personal and group growth. In doing so, the teachers usually achieve within the social studies program the objectives prescribed for factual learning in geography, history, and other "social" subjects, and some of the objectives prescribed for other subject-matter areas as well.

The content of grade 4 social studies in the classrooms visited reflected the following interests:

Bridging the gap from grade 3. (During September the teacher had continued a study of prehistoric animals carried on during May in grade 3.)

Familiarity with the tools for social studies: Books, maps, globes, pictures, and other materials. (A teacher guided a group to examine carefully their first "real" geography book, in this way helping them to identify and gain some appreciation of format, authors, publishers, date of publication, table of contents, index, and glossary.)

Learning to use resources in the school or community library.

Gaining familiarity with the maps and map symbols and legends as a part of studying their State.

"We looked at.....from a balloon!" explained a boy. We wanted to find out how it looked from high up in the air." (The observer later learned that this view was on a school kinescope. Since a notable balloon ascension had just been made nearby, the interest was keen indeed.)

A chart illustrated some of the items in their study:

Our State

How do cities, rivers, and lakes look from up high?
How do they look on a map?
How do we find our State on a map?
(Symbols were sketched for the following: Rivers, lakes, small city, large city, State capital, direction finders.)
Our State is one State of 48 States.

Learning to recognize the characteristics of the earth and how to get from one place to another. In one class, for instance, several children who had completed their work were painting continents on a globe.

Learning about North America as a continent. Many groups were studying the early explorations and settlements, utilizing strip films, movies, and globes of various kinds. Directions on the globes were emphasized and transferred to wall maps.

Identifying the influences of various groups of colonists upon North America. In one class, a film had stimulated the study of French

influences. Children had raised questions and brought in reference material on all phases of French culture and objects which were on display.

Learning about crafts developed by the early colonists. One group had formed committees to cover the reading about the various crafts; had rounded up brochures, materials, slides, and samples from libraries and from restored colonial centers, museums, and manufacturers; and had themselves carried on some of the crafts.

Learning about countries that make up North America. Mexico was selected for study by the children and their teacher. Children's questions included: Why has Mexico remained an agricultural area? Why have industries not developed when they have so many resources? Committees were studying population, climate, homes, clothing, and transportation.

Learning how people live in contrasting environments over the world. In the study of Switzerland, an example of a mountainous country, children had made the following study guide: "We want to find out where the country is, how you get there from here, what languages are spoken, why it is so famous, why it was not in the world wars, what are its industries, what materials it needs, where they come from, why St. Bernard dogs are famous, why it is called the playground of Europe, how the Alps have protected the country, why Swiss Government is famous, and how the Red Cross was started."

As part of the study, children had also made a list of new words, including Gessler, Alpenhorn, Alps, Marie Antoinette, Henry Dunant, St. Bernard, halberd, independent, dialect, shingles, and fidelity.

Contrasting city and country life. A class of city children was making plans to visit a dairy farm.

Extending understandings of the near environment. A group was preparing the following activities to be accomplished during the year: To visit the Chesapeake Bay area, take trips to historical places, give two plays, make book reports, and complete the manual.

In grade 5, the study of the United States, its growth, past and present, and of its territories and neighbors, forms the major content of social studies. This was seen in the study of Canada, Alaska, Mexico, Central America, and the West Indies; in the study of travel across the U. S. A.; of maps of the U. S. A. and the Oregon Trail; and in the study of our country as a great agricultural and industrial Nation, the United States, and cities of New England (or other regions).

In grade 6, the emphasis is sometimes the *world*, sometimes the *Western Hemisphere*. Schools visited were studying our American Neighbors, the Indians of America, Greece, Egypt, Great Britain, Europe as a whole, the USSR, China, Japan, our rights and freedoms, the United Nations, and the United States in the world.

470349—58——10

Public Schools, Oakland, Calif.

Reference books help, too.

In a small rural school where 1 teacher taught 3 grades, children of all grades were studying the effect of air transportation on our living, and the teacher was careful to relate the study to the local community, the State, the Nation, and the world. In another such school, children were engaged in a joint study of the Indians of America.

Organizing the Work. The way of organizing work in the social studies field most often commended by educators in this study for its possibilities is the unified way of teaching, sometimes called the *unit plan.* Values in this type of organization were pointed out: The possibility of adapting it to individual differences in reading ability, interests, skills, and other abilities; and the possibility of using it to satisfy children's varying needs for social participation. Some of the educators' specific statements follow:

> I can give my slow readers easier material on the same subject. The brighter children do much more. Some of them even use reference books their parents have at home and they contribute a lot to our discussions.
>
> I can make good use of so many more books and pictures and newspaper articles this way. There's always something in the papers about what you're studying.
>
> I tried it this year. (From an older teacher, returned to teaching.) The work is more interesting. My children wanted to do committee work and this gives them a chance. The committees all do something different. It makes the children feel so much more grownup.

Children and teacher plan. The general procedure in the schools of this study is that, as a new area of social studies work approaches, the teacher presents this new area in a way designed to introduce correct concepts and encourage interest. This may be done through current events, a film, a trip, a talk by a traveler, a discussion, or a radio or television presentation. Unless the children ask questions spontaneously the teacher then suggests:

What do you think we want to find out as we study?
How can we get the answers?
Is there anything you think we want to *make* or *do*?
How shall we organize our class for work?

It is important that the teacher work with integrity, using questions raised as keys to further interest. If she intrudes her own questions—and as a member of the group who has special responsibility, she has every right to do so—she puts them honestly, making it clear to the children that this is something that she thinks they would find helpful or interesting. The children add questions day by day, and evaluate the activities to see which are worth pursuing.

Following are examples of questions, by grades, which children have asked when introduced to a new area of social studies:

Grade 4: ***Do the craftsmen still exist today? How are things made? Do the products of the craftsmen exist today and are they used? Are there any reproductions of the craftsmen's products? How did the craftsmen first start their work?***

Grade 5: ***Did the people (in our Southwest) eat the same food as the Mexicans? What did the owner of the ranch do? Was he a vaquero? ride around on a horse? Who managed the vaqueros? What work did the women do? Was there a special room for [illegible] another for cooking, and another for sleeping? How did they [illegible] know how many acres they had? Did they measure by yards, feet, or meters? Did the people have the same kind of houses as the Mexicans? When did the Americans take over California? How much did the Americans pay Spain for California? Were there more Spaniards than Indians? How many Spanish people are there in California? What did the sailors from a ship do? What did the people do for fun? What kind of animals did they have on the rancho? What language did they use on the rancho? Were there Americans here when the Spanish were here?***

Grade 6: ***How do Egyptians dress? What is their history? Their recreation? Their art? Their music? Their government? What was an ancient Egyptian like? What changes have taken place in customs: Dress, education, land, religion, homes? Do they have holidays? Do they depend on other countries? What is going on in the Suez?***

Plans are carried out. *"Getting the answers"* often leads children to many sources: Textbooks, supplementary books, reference

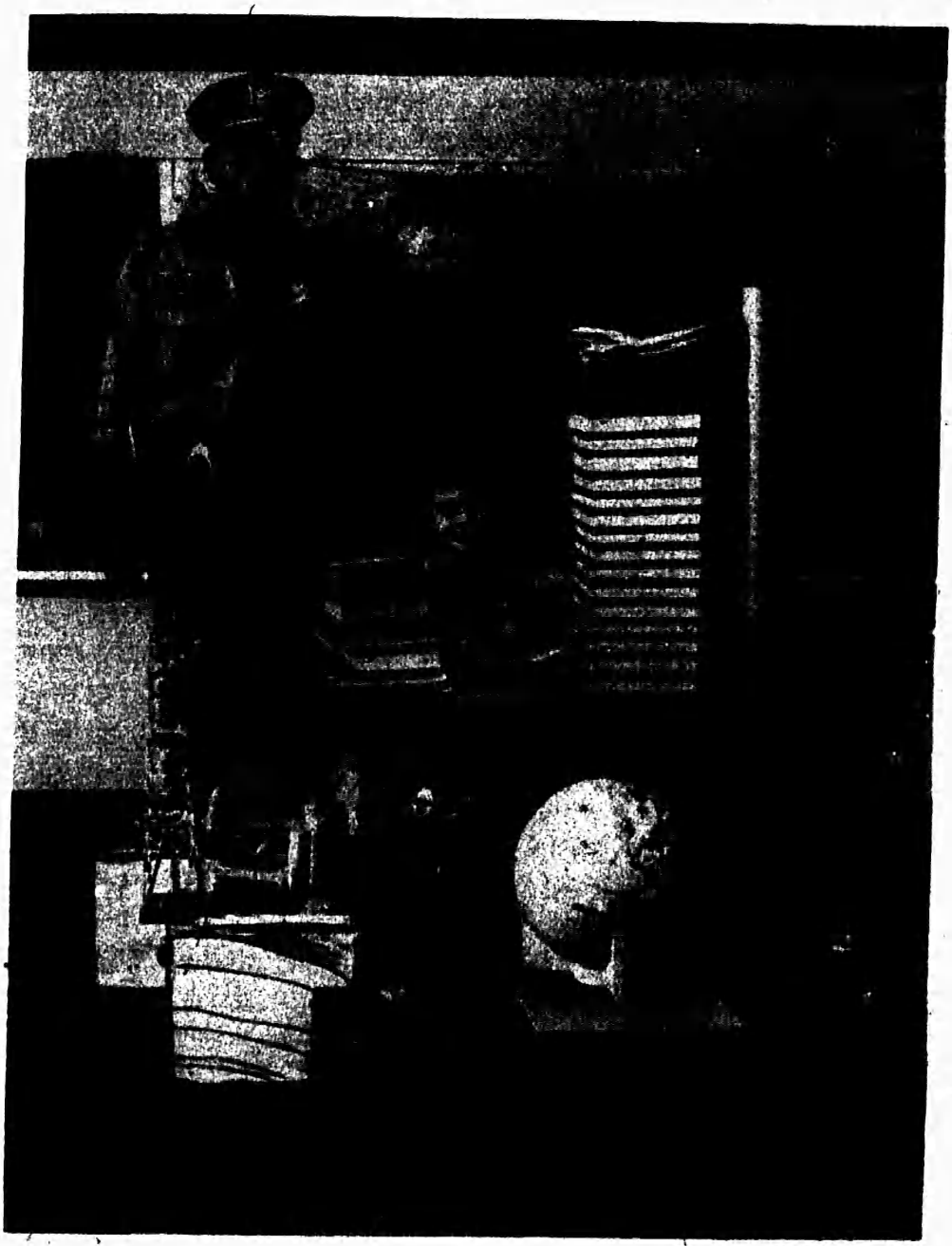
books and encyclopedias, audiovisual aids, interviews, trips, and discussions. Subject-matter-wise, it leads to social studies, but it may also lead to an intensive look at special aspects of social studies, such as history or geography, music, literature, art, dramatics, mathematics, health, agriculture, astronomy, sociology, and many other fields. Children observed were using many of these resources in order to "find out."

Books were the most common resource. In some schoolrooms, children were all using identical textbooks; in others, several textbooks, "finding out" what the authors of each book said about the topic or question. Many schools had supplementary books and rich resources of reference and library books relating to the work of the class. These were sometimes housed in a *classroom library*, brought there from children's homes or from the school's *central library*. In one city, kits dealing with various interests were available from the central office upon request. Again, a bookmobile would bring books from a library at some distance. One school near a college borrowed books from the campus library. Pamphlets from business organizations added concreteness and up-to-dateness.

The reference and textbook materials were frequently of various levels of reading ability; in all cases, children reading the "easier books" were using them with no evidence of discomfort. Probably the brighter children read the easy as well as the difficult books, as is often the case. In one school using so-called "companion books," children had discovered the situation and a group was found huddling over the books to see how the writers said the same thing in two ways.

Maps and globes were also used in many schools. A good globe, a good map of the world, and a good map of the United States were standard equipment in most classrooms. More fortunate rooms also had atlases, as well as maps related to the specific areas emphasized in the grade or in the unit—the latter borrowed from another group or from the school's materials library.

Some schools selected maps after careful study by the teachers, the observers found, and as a result, avoided major errors in selection. Since earth understandings, in relation to human understandings, are important in grades 4, 5, and 6, the schools felt that the children should have maps showing clearly the earth's configurations. (Some maps and globes do this admirably; others do not.) The schools also considered the type of projection, and where possible all types were used for comparison. The international color scheme and symbols are also important, the schools



Parade Magazine.

Glencoe (Ill.) children use many sources to learn about the world.

said, because of transfer of symbols from one map to another. Thought had been given to all these elements in selecting maps. Most of them showed the earth's surface and areas of human occupation, thus providing some fundamental tools for relational thinking.

Maps were hung in most cases on map rails, permitting the use of several at the same time when desirable. Globes were placed

on tables, and during free periods were inevitably centers of child attention and activity.

Some schools made good use of childmade maps for special purposes, such as emphasizing names of cities, States, regions, and countries; or emphasizing certain physical features, trips, discoveries, or other interests.

Other audiovisual aids. Projectors, films, slides, strip films, tape recorder, television and radio sets, and other materials useful in the social studies were frequently in evidence.

Other resources. It seems to be customary practice for a school staff to have a list of community resources which are available to the school. As a result, many valuable trips are taken to stimulate interest and get information; and people of the community are frequently invited to come to the school to talk to the children. Some principals also have lists of free and inexpensive materials which may be secured, and in a few schools a small fund is available for materials whose need can not be foretold.

"Making and doing" leads to such activities as finding, reading, observing, discussing, interviewing, writing, constructing, painting and drawing, arranging, dramatizing, and above all, to creative thinking.

Committee work is popular as a way of getting things done in grades 4, 5, and 6, no doubt because this satisfies the need for peer-group orientation and because it reduces the task to reasonable proportions for each child. One class which works consistently in this way gave these as "reasons why we work in groups."

1. Information can be located more easily.
2. Each person can have more to say. (This would imply that small group work satisfies the need for ego assertion better than individual work in which children relate more to the teacher.)
3. The class can learn more.
4. The chairman is able to give more help to the people in his group (presumably more than the teacher can give to the total group.)

This class, similar to others observed, had drawn up standards for group work: Try to do your best work, cooperate with your chairman, get as much information as you can for your group, try to exhibit good conduct, and be a considerate group member.

A good chairman, said the children, keeps his group under control, gets materials for his group, is patient, and makes certain that each member has a part in the activities.

The ability to work cooperatively must be *learned*, said teachers. In a 4th grade, children studying Alaska had worked for the first time in this way and were now reporting it to the class. Some

committees had accomplished a fair amount; others had little to say. The teacher encouraged the children to use maps of Alaska in many ways and helped them suggest things the committees could do before reporting again. "It is always like this at first," she said later to the observer; "it takes a long time to learn to work together, and some children have more trouble than others."

One group observed was at that time organizing to study Central America and the West Indies, each committee being responsible for one country or island. Many ways are used to select committee members; on this occasion, the children chose chairmen and the teacher appointed the members. Books of many levels of reading were ready for the children as they went to work "to look things over" and get their questions ready.

Another group was studying the United States, in three committees: Natural resources as an aid to industries, forests as natural resources, and farm and city workers as helpers for each other.

One group had children working in five committees. One committee was at a map; others were seated and reading, marking, and selecting paragraphs, cartoons, and pictures. Their problem was "to decide some things we could do to learn about the United States."

A 5th grade was divided into committees to study the five ways pioneers traveled westward from Independence, Mo.

In a 6th grade a boy served as chairman for the reporting session, opening with the comment: "Today we realize the importance of atomic energy, and we need to learn to live together in one world." He then called on committees to make their reports on the Nile: Tillers of the Soil (reported in choral work); How People Lived and Worked; Picture Writing, Gods, and Men; and Happenings Today.

In some cases where children formed "interest" groups, or where teachers purposely planned them, the more able children had opportunity to work together. This, supposedly increasing the challenge of these children to learn, was done in heterogeneous classrooms as well as in "special groups" selected more homogeneously.

Current events frequently stimulate a study extensive enough to be called a "unit." Bulletin boards and chalkboards are used commonly for "news" corners. The children usually place and remove items. One large city encourages extensive use of current events in teaching. A supervisor in this city said, "We need teachers who can use the affairs of the moment to broaden the

education of children—to help them gain skills in handling information, detecting propaganda, and taking part in life around them." Each grade knows what are the objectives for the year in subject matter and skills, but no sequential plan of developing the work is demanded or even suggested. Time lines are used freely to cluster major events, so that opportunity is provided for children who are sufficiently mature to appreciate chronology to do so. (See pt. one, ch. I.)

Committees are not the only way. Not all social studies work is accomplished in committees. On several occasions entire classes worked as a unit, projecting what they thought they knew about a country to be studied, planning procedures for study or reporting, or working under the guidance of the teacher to learn certain facts or skills.

One 4th-grade group discussed, as a whole, difficulties some people from other countries have when they come to our country. Some of the children told of a Dutch family which was not well received. Improvement came after people in the community located the trouble: The newcomers did not know how to get help when they were ill, or how to cash checks. People helped them learn and now they are happier.

A group preparing for a trip discussed as a whole what clothing should be worn, how to behave on the bus, what to look for, and what care should be taken.

Following a film, a class had a "Stump the Experts" program about provinces, water bodies, and topographical features of Canada. Several classes were outlining, with the teacher's help, information remembered from a film seen the day before.

A panel discussion on "Our Rights and Freedoms" was the feature of one study.

In several instances, contacts with other lands has stimulated study. When a city has a twin or an adopted city abroad, children exchange letters, questions, answers, and objects, and learn much about geography, history, and international relations.

Themes, too, become centers for study. Groups were found doing much with aviation (a major study in Hawaii, where other means of travel are unimportant), transportation in general, work activities around the world, the "power of the press," great inventors and inventions, Around America, and other unifying themes.

Ways of reporting what has been learned were suggested by children preparing to work in committees. They thought that some ways of making reports interesting might be through a skit

or play, television program, charts, "telling if it is good talk," quiz programs, pictures, a panel discussion, or slides.

A 4th-grade group used a play they had written to report their study to other children in the school. The main theme of the play was that newcomers very often are not well received when they come to our country because they are not understood, and that this sometimes happens to us also when we go to "new places."

Evaluating Progress

Evaluation is an important part of growth and occupies a significant place in the social studies program. There are many opportunities in the two aspects of a good social studies program—social living and learning subject matter content—to help children evaluate their individual and group growth and needs in many lines of development, as well as help stimulate their desire for improvement. Much of the time, children themselves evaluate their own progress and they are quick to hold coworkers up to standard. When teachers feel that there is need for further evaluation, they lead to it by direct or indirect means.

Instances in which children or teacher evaluated what was happening are described in many places in this record. Teacher-child planning, both individual and group, for instance, gives continuous opportunity to look at "how we are doing" and to point out places where performance can or should be improved. Many a timewaster sees life in a different light when he learns that *he* is being held responsible for holding up the progress or the quality of his committee or the class.

Evaluation of more direct type takes place when a teacher says, "John, are you doing the best you can do? Is there any way I can help you?" Or, "John, here is a book you will find useful. Be ready to tell the group what the author says about..... Remember the ideas the children gave you for improving your reports."

Through means like these, the quality of human relations can be evaluated, and the way in which individuals meet responsibilities can be examined. Suggestions are usually practical to the needs of the situation; in the final analysis it is the teacher's responsibility to observe whether they fit the individual. Frequently, she must enter the discussion with a moderating comment, or a suggestion that "Bob could do more—or better."

Teachers have devised many ways to evaluate what children are learning: Facts, skills, abilities, sometimes attitudes. Educators agree, however, that the best opinion that can be formed, even through tests, is only an estimate. This is particularly true in the

field of the social studies, where subject matter is so broad and children's interests so varied. Any child may know a great deal about one thing, and not so much about another. Nevertheless, tests are used, sometimes tests produced commercially; more often those made by the teacher because she knows what she has been teaching and what the children have had opportunity to learn. Review games and drills are also used to call up factual items; "problems" [1] are sometimes assigned by the teacher in order that she may see how children round up resources and use their skills to reach a conclusion and to present it to the class.

Children are sometimes given opportunity to state what they think they are learning. One group wrote:

> We learned to interpret maps.
>
> We learned to find books and other source materials.

Another reported that through their social studies, they learned:

> to recognize problems and find, select, and reject evidence.
>
> to draw conclusions.
>
> to generalize and to recognize learnings in new situations.

Asked to evaluate the worth of a unit which the children had just completed, a teacher pointed to individual improvement and to group achievement:

> The most discourteous, unchivalrous boy in the room whispered to me that when we took everything down, he would like to have the shield with the vows of knighthood printed on it, to hang in his room.
>
> One boy received such acclaim for his creation of horses' heads that his long frustrated need for recognition was fulfilled. His temper outbursts disappeared, and for the first time he made some genuine efforts academically.
>
> The necessary academic facts have been better assimilated to the extent that, in final examinations for the year, pupil responses to questions covering areas studied show a much higher percentage of mastery.

Growth in Mathematical Thinking

A freshness of approach was evident in the teaching of arithmetic in some schools. Grouping children within classrooms is

[1] Such a "problem" is "Why is Uruguay a garden country?" With the use of any resources in the room, but working alone, children reach a conclusion and report it to the class with supporting reasons.

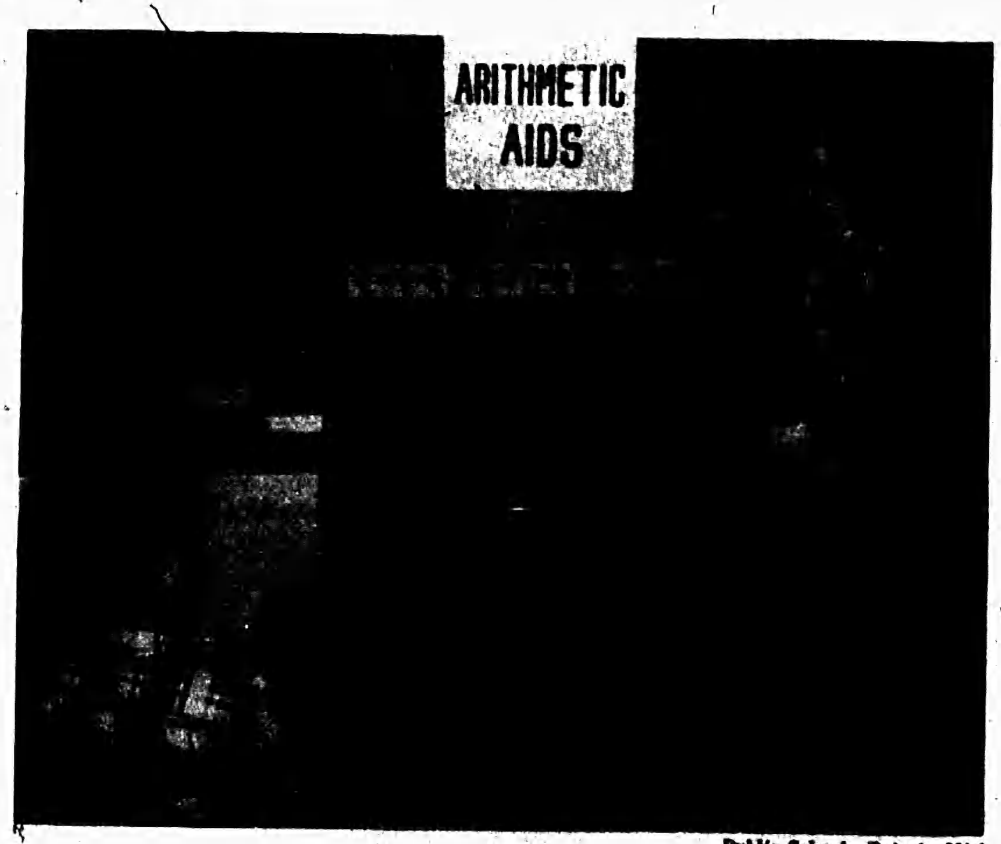
common, and in many places the term "mathematics" more accurately describes the program. A new look is evident, too, in the atmosphere. Children are excited about arithmetic; the old boredom has almost disappeared.

Dissatisfaction about the outcomes of arithmetic teaching has been prevalent among teachers and other educators for a long time. This feeling was reflected in conferences. Problems and illustrations utilizing the principle of deduction, even under "good" teachers, have seemed to command little interest from children, and skills were difficult to maintain.

Recently, other psychological elements are being emphasized, principally the research for *meaning* or concepts, through induction, estimation, proof, life problems, concrete materials, and just plain fun with numbers.

Learning by Induction

Children are encouraged to experiment with procedures (in grades 1–3 especially, but also in 4–6) and to draw out the generalization or rule from their experience. Teachers take care to



Public Schools, Detroit, Mich.

Inductive learning is helped by visual aids.

be sure children *understand* processes and reasons for them. Several illustrations follow:

The teacher gave the setting: You have 40 cents. You want to buy notebooks which cost 10 cents. How many can you buy?

A child went to the board and wrote:

```
 40¢
-10
----
 30¢
-10
----
 20¢
-10
----
 10¢
-10
----
 00
```

He then drew rings around the 10's and counted 4. (The principal explained that the shortcut would be taught *after* the children understood.)

The teacher gave the example: 364÷3. A child wrote the example on the board, as below on the left. He then proceeded as below on the right, talking as he worked.

```
3/364
 1
 20
100
3/364
300
---
 64
 60
---
  4
  3
---
  1
```

How many 3's in 300? (Using 300 as the digit having the largest place value.)

$3 \times 100 = 300$, and said "not enough."

$3 \times 200 = 600$ . . . . . "too much."

He placed 100 in the quotient, 300 under the dividend, and subtracted. He then said, "How many 3's in 64?" and wrote:

$3 \times 10 = 30$ . . . . "not enough."

$3 \times 20 = 60$ . . . . "not enough."

$3 \times 30 = 90$ . . . . "too much—

I'm going to use 20." He wrote 20 in the quotient (see example), placed 60 under the dividend, and subtracted. He wrote:

$3 \times 1 = 3$ "not enough."

$3 \times 2 = 6$ . . . . "too much."

He placed 1 in the quotient, 3 under the dividend, and subtracted. "Now I will prove it," he said, and wrote:

$100 + 20 + 1 = 121$

$121 \times 3 = 363$

$363 + 1 = 364$

"The answer is 121 with 1 left over," he said.

A child gave the next example which was solved in the same way. I have 515 children to be divided into 5 groups. How many children will be in each group?

Children were working in a group, but at individual progress. A boy and a girl had finished and were using the abacus. Finally the teacher stopped the class and asked the girl to explain how she used her abacus. She added 65 + 37; then 44 + 98. The boy demonstrated substraction on his abacus, which was a different type: 583 — 296; 2,908 — 333.

A child asked if it could be used for multiplication. The two children thought not, but with the teacher's help, they succeeded in multiplying 3×65. A girl who had a Chinese girl friend volunteered to bring a real Chinese abacus, and a supervisor who was among the visitors called attention to a recent book on the use of the Chinese abacus, and promised to send it to the children.

Teacher: How many have chickens at home? (Many.)
Teacher: How much scratch do you give them a day?
Children: One measure. One and a little over. A coffee can full.
Teacher: Bill feeds his $2\frac{1}{2}$ measures 3 times a day. How many measures daily?
Girl: I wasn't here when we learned that, but I have a way. (She sketched 8 measuring cups, left 6 whole, divided 3 into halves, and colored one-half of each of the last 3.) Count how many halves, 3 halves. Count how many wholes, 6 wholes. 6 wholes and 3 halves = 7 wholes and 1 half, or $7\frac{1}{2}$.
Child: There's an easier way. (Goes to board.)

$$\begin{array}{r} 2\frac{1}{2} \\ 2\frac{1}{2} \\ 2\frac{1}{2} \\ \hline 6\frac{3}{2} = 7\frac{1}{2} \text{ m.} \end{array}$$

Another child:

$$\begin{array}{r} 2\frac{1}{2} \\ \times 3 \\ \hline 6\frac{3}{2} = 7\frac{1}{2} \text{ m.} \end{array}$$

Another:

$$*3 \times 2\frac{1}{2} = \frac{3 \times 5}{2} = \frac{3 \times 5}{2} = \frac{15}{2} = 7\frac{1}{2} \text{ m.}$$

Another: I have a long way. (Wrote on board.)

$$\begin{array}{rr} 1\frac{1}{2} & 4\frac{1}{2} \\ \times 3 & + 3 \\ \hline 3\frac{3}{2} = 4\frac{1}{2} & \hline 7\frac{1}{2} \text{ m.} \end{array}$$

Teacher: Which way is best?
Child: (Indicates the one starred above.)
Teacher: Let's look to see which one the book favors. (The same.)

Estimation

"Children need to do more estimating," said participants. "They need to learn to think in mathematical terms." Following are some illustrations:

In a number of classes, children were estimating the answers to problems. In some cases, the teacher approved or disapproved the estimate; in others, children "proved them."

In one school, children read problems on Friday, thinking how you would proceed to solve them. On Monday they solve them. This was Monday. Children were making headway and teachers were so pleased with the method that it is now encouraged throughout the city.

A poster said this:

How do we think through a problem?

1. What do we know?
2. What are we to find?
3. What do you think the answer will be?
4. What must you do to find out?
5. Find the answer.
   Label it.
   Prove it.

Proof

The challenge, "prove it," is now a part of schoolroom procedure, voiced by children even more often than by teachers, it seems. Illustrations follow:

Teacher: How many thirds in a whole?
Child: Three.
Teacher: Write it.
Child: $\frac{3}{3}=1$.
Teacher: Prove it.
Child: (Drew a circle and divided it into three thirds.)

Teacher: How many sixths in a whole?
Child: Six.
Teacher: Prove it.
Child: (Drew a circle and segmented it into halves, and each half into thirds.) Each half has $\frac{3}{6}$.
Teacher: Write it.
Child (writing):

$$1=\frac{6}{6}. \quad \frac{1}{2}=\frac{3}{6}. \quad \frac{3}{6}+\frac{3}{6}=\frac{6}{6}=1.$$

Teacher: How much is left if you take $\frac{2}{3}$ from 2?
Child: $1\frac{1}{3}$.
Teacher: Prove it.
Child: (Drew 2 circles, divided each into thirds, colored 2 of them): There are $\frac{4}{3}$ left, that is the same as $1\frac{1}{3}$.
Teacher: Write it.
Child (writing):

$$\begin{array}{r} 2 \\ -\ \frac{2}{3} \\ \hline 1\frac{1}{3} \end{array}$$

Teacher: Show how you got it.
Child (explaining): It is the same as—

$$\begin{array}{r} 1\frac{3}{3} \\ -\frac{2}{3} \\ \hline 1\frac{1}{3} \end{array}$$

(Children then did examples at their seats.)

A boy, president of Audubon club, showed a picture of a crane. "It is a big bird—48 inches tall. Here it is on the board," he said, using a yardstick and one ruler to draw a straight line. "Here it is on Mary," holding the yardstick up beside Mary.

The teacher called 2 girls, 1 short, 1 tall.

Teacher: If they were the same height, what would that be?

Child: You have to know how tall they are.

(One was 51¼ inches; one 60½ inches.)

$51\frac{1}{4} = \frac{1}{4}$
$60\frac{1}{2} = \frac{2}{4}$
$111\ \frac{3}{4}$

Then you add those two numbers together. (She explained clearly the process she was using as she placed the total on the board. See example.) That makes 111¾ inches. Now you put two into your total. (Attempted to do so, and met with difficulty.)

Teacher: We haven't studied that kind of division yet. Can anyone figure it out?

Child: I can. It's 56¾.

Another child: It isn't. I can prove it's wrong. (At board, talking as he writes:)

$$\begin{array}{r} 56\frac{3}{4} \\ \times\ 2 \\ \hline 112\frac{3}{4} \\ 1\frac{1}{2} \\ \hline 113\frac{1}{4} \end{array}$$

That's too much. The answer should be 111¾ inches.

Teacher: I'll help you with it later. (She then called 2 boys, whose heights proved to be 53 inches and 63 inches. Children added at their seats and reported 116 inches, then divided by 2 and announced 58 inches as the average.)

Teacher: Show that there are 4 halves in 2.

Child: (Sketched 2 candy bars on the board and divided each into halves.) Four halves equal 2. (Sketched another candy bar, divided it into halves.) We'll take 1 half. (Speaking as she wrote:)

$$\frac{4}{2}+\frac{1}{2}=\frac{5}{2}=2\tfrac{1}{2}.$$

Teacher: David walked 3¼ miles to school daily. How far did he walk in a week?

Child (at the board):

$$3\tfrac{1}{4}\times 5=\frac{13\times 5}{4}=\frac{65}{4}=16\tfrac{1}{4}\text{ mi.}$$

Another child: I can prove it. (He then wrote:)

$$5\times 3\tfrac{1}{4}=\frac{5\times 13}{4}=\frac{65}{4}=64\tfrac{1}{4}\text{ mi.}$$

Another child: You could add.

Teacher: What is the decimal equivalent for one-third?

Child: .33.

Teacher: Prove it.

Child (wrote on board):

$$3\overline{)1.00}\quad .33$$

$.33=\frac{1}{3}$ of 1.00.

Teacher: $\frac{2}{3}$?

Child: .67.

Teacher: Prove it.

Child (wrote on board):

$$\frac{2}{3}\times 1.00=\frac{2\times 1.00}{3}=3\overline{)2.00}\quad .67 \qquad 67=\frac{2}{3} \text{ of } 1.00.$$

Teacher: $\frac{4}{5}$=what fraction?

Child: $\frac{8}{10}$.

Teacher: Write it as many ways as you can.

Child (wrote):

$$\frac{4}{5}=\frac{8}{10}=.8=.80=.800 \text{ (on and on).}$$

Child: How do you change to a decimal?

Another child:

$$\frac{4}{8}=\frac{1}{2}=.5.$$

Teacher: The teacher had a carton.

Teacher: How do you find the perimeter?

Child: Measure it. (Approached box with a yardstick.) It is 27 inches long, 10 inches wide. Add $27+10\times 2=74$ inches.

Teacher: How much space would you need to put the box down?

Child: The area around it.

Teacher: The perimeter?

Child: No. I know. You take length times width—the *area*. That would be 27×10. 270 square inches.

Teacher: Would it matter what shape if it made 270 square inches?

Another child: Yes, it has to be the same measurements, 27 inches and 10 inches.

Thus, by painstaking, unhurried proof, children are required to clarify both concepts and processes.

Life Problems

"In teaching arithmetic," a teacher said, "although we depend upon textbooks, many life problems are also used. Children bring money which they may use to buy something but also for study in class. Pupils watch for and make up problems to put into a notebook for practice work."

This seems to express the search teachers are making for reality in application of arithmetic thinking. Some illustrations follow:

Children in a 4th grade had figured out the proportion of the time they spent in various activities. The following results were posted on a bulletin board:

8 percent of my time goes to my hobbies.

I serve papers $\frac{1}{24}$ of the day.

I spend 4⅛ percent of every Tuesday taking horseback riding lessons.

I discovered that 5/24 of my day is passed by going to school.

1/24 of my time is spent reading the newspaper.

I sleep 5/12 of the day.

Approximately 2¼ hours of my day are spent reading interesting books.

An average of 23 percent of my time is spent *outside!!*

In planning a trip, 4th grade children and teacher discussed the cost involved.

Child: It costs 50 cents to park a car. Why?

Child: It costs money to keep up the park.

Child: Do you have to pay for a bus?

Teacher: I don't know. We could find out if a busload of children may go free. I have the address.

Child: If they charge for the bus, what will it do to this? (Pointing to a chart with prices on it.)

Child: Make it higher. It will run into $2 maybe.

Teacher: We have $5 newspaper money. Perhaps the principal will think we might use that. It is our money, you know.

Child: When I told my mother, she said I could earn the money to go.

Child: My mother told me I could do things around the house and mow the lawn and weed the garden.

Child: I've already earned mine. My mother said it was all right to use it.

Children had read *Mr. Popper's Penguin* and a committee had studied to see whether the "facts" were true. Among other things, they had found that penguins were 3½ feet tall, and they had made a 2-dimensional model "exactly 3½ feet tall," proving to us the accuracy of their work with a yardstick. Penguins swim 20 miles an hour. They would swim 80 miles in 4 hours. They multiplied to prove it. Penguins do live in large rookeries, just as the story says.

A class was making bar graphs comparing the speed and altitude of the satellites. One square was to equal 1,000 miles: The question was to find how much space must be covered on our graph.

Using data from the superintendent's report, children discovered that it costs $6,000 to educate a child 13 years in this city.

A class made the following charts to guide their study:

How Are Decimal Fractions Used?

How are decimal fractions used in athletics?

What are everyday uses of decimal fractions?

Explain budget—estimate—dividend—terms—value.

What does net weight mean?

What does gross weight mean?

How Is Measurement Used?

Cooking	Sewing
Land measurements	Liquids
Music	Leveling land

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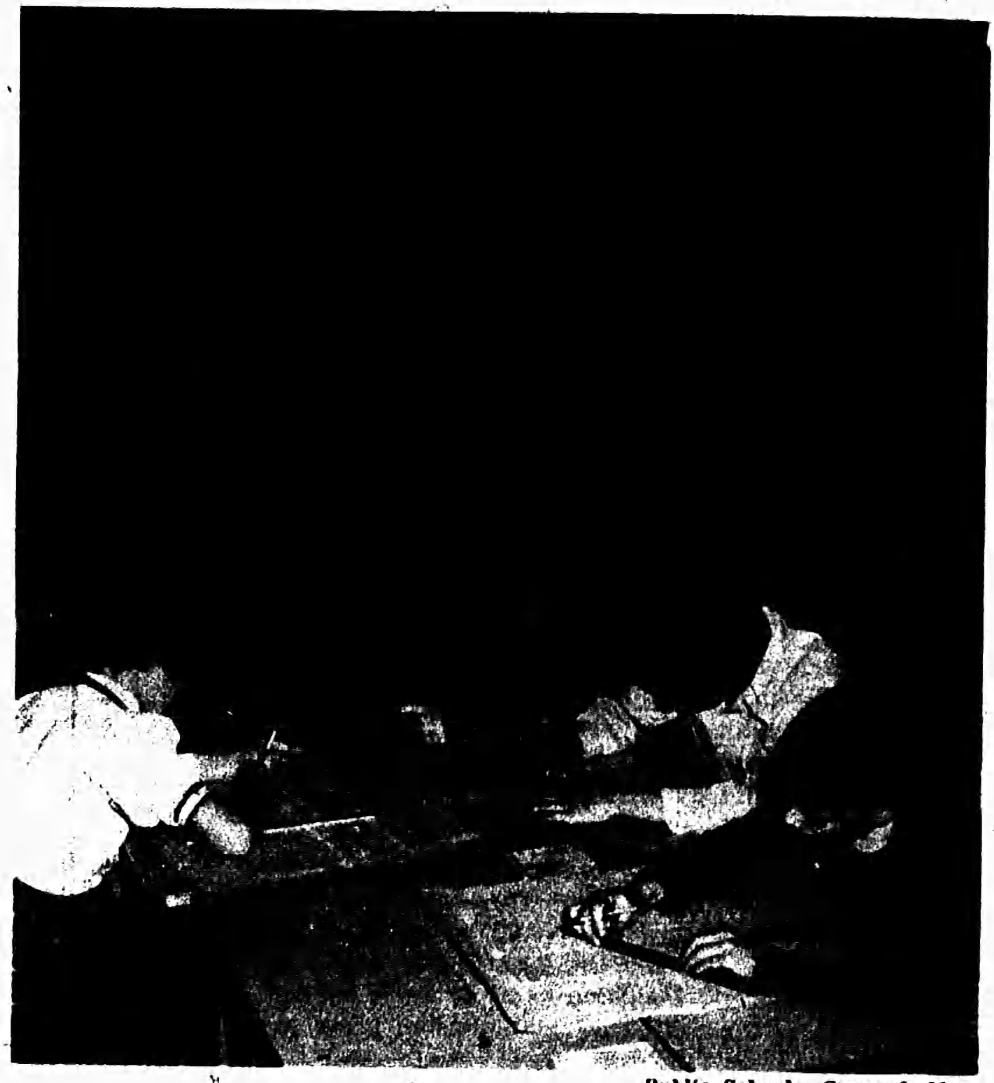

Public Schools, Concord, Mass.

Car parking presents a realistic problem in arithmetic.

In a 5th grade, two boys exhibited a scale drawing of a house. They had measured every room and reduced it to a scale of 1 inch to 5 feet. "We certainly did lots of arithmetic," they said. A child asked them how many feet and inches were in 24 yards, 10 inches. Multiplying $36 + 12 \times 2 + 10$, they solved it.

Two girls had a mug. Their problem: How many teaspoonfuls are in 2 cups? The teacher helped by volunteering that there were 32 tablespoonfuls in 2 cups. A child said, "There are 3 teaspoonfuls in 1 tablespoonful." Another child: "$32 \times 3 = 96$ teaspoonfuls." Another: "Then there are 48 in 1 cup." (Two boys were at the sink proving it.)

A committee reported how measurement started, explaining the primitive use of the human body (hand, foot, arm, span, palm, fingernail), and of barleycorn; and the development of the standard bushel. When asked by the teacher why these earlier ways of measuring were not in use now, the children replied they were "too slow" and "not exact."

A boy volunteered: "This isn't exactly on the subject, but I have a new way of measuring. May I show it?" As he went to the front of the room, he said, "I need a helper." He sent his helper to the opposite corner, held a pencil at arm's length, higher, higher, higher. "The wall is about 14 feet high," he said. The principal verified this. The children asked, "How can you tell?" The boy replied, "It's easy. You take two pencil marks on a point you know, see how many times the pencil will go along the wall you are measuring, and multiply. That is the estimate. The teacher asked, "Is it accurate?" "No!" exclaimed the children. One child said, "It's an estimate." The teacher added, "Yes, it is just the approximate height. This is really geometry. You will learn more about it later."

A class earned money for their "Family Affair," an event at which the children entertained parents with a program and a "supper, too, from 'soup to nuts'," as the children wrote in their invitation. Committees reported to the class their earnings on several projects:

"Project cookies"	$9.10
"Project Kim Chee"	20.28
"Project auction"	30.31
	59.69

The teacher was helping 1 of 3 groups of children measure. The day before they had measured a basement room: Length, width, and height. Now they were expressing that they found. Some confused *square* and *linear*. Using a ruler and a foot-square piece of cardboard, the teacher led them to reexamine their own statements and correct them.

Two girls were at the board marking a rectangle into nine equal parts, for some entries they wished to make. When the teacher asked them how they were getting along, one replied, "We found it was 36 inches this way and 24 inches this way. We are dividing 36 by 3, and 24 by 3. Then we will draw lines." As the others proceeded, they completed the rectangle correctly.

The teacher returned to the group (above) and asked, "If we went by rocket to the moon, how much would we weigh?"

Child: Nothing. (Others objected.)

Child: Five times less than we do on earth.

Teacher: We'll find out. How else can be measure besides in yards and feet? (Children guessed, but always in linear measure.)

Teacher: What do we use for recipes?

Child: Cups.

Teacher (Moving a scale before the group): What do use use on this?

Child: Pounds—and ounces.

Teacher: How much do you weigh, Annie?

Annie: 99 pounds.

Teacher: Prove it. How do you start to weigh? (Annie could not proceed.)

Child: You have to have it the same on both sides.

Teacher: Yes, balanced on both sides. Can you balance it?

Boy: I can try! (He succeeded.)

Annie: I weigh 101 pounds.
Child: Annie would weigh 5 times less on the moon.
Teacher: She would weigh ⅕ as much on the moon. Now let's prepare our paper so we can make our records. Measure from the top 1 inch, then ½ inch. Draw those two lines. Now from the left edge, measure 2¾ inches, 5½ inches, 8¼ inches, 11 inches, and draw lines for 4 columns. Put in headings if you have time.

Sample on board:

This is what I *actually* weigh on earth	This is an *estimate* of what I would weigh on the moon	This is what I *should* weigh on the moon	This is how much I missed estimating my moon weight
2 pounds	5½ pounds	8½ pounds	11 pounds

As children worked, the teacher went to help a third group. They took a blue board and red flannel disks.
Teacher: Put up 7 disks. (Child did.)
Teacher: How many rows to make 28?
Child: 4. (He put them up.)
Teacher: How many would you remove to leave 21? 14? 7?
Children: Children replied and removed until only *one* was left.
Teacher: It that as small as we can make it?
Child: No. You can go below one.
Teacher: Prove it.
Child: You can have ⅛.
Teacher: How many fifths can you have in one?
Child: ⅝. ⅛ + ⅛ + ⅛ + ⅛ + ⅛ = ⅝ = 1.

The problem was to find how much it costs each month to drive a car. The teacher was working with a group at the board, which at first showed only a single column of costs. The children then computed the monthly expense.

		Monthly expense
Purchase price (secondhand car)	$1,080	[1] $36.00
Insurance (under 25)	300	25.00
License	27	2.45
Gas and oil	150	12.50
Repairs	84	7.00
Tires	108	9.00
Total	1,749	91.95

[1] 30-month term.

As they finished a child said, "But wouldn't you have to pay interest on the money you owe?" The next step was to work out the interest.

To answer a question raised by children as to "how far pioneers had traveled," children were working in 5 committees to estimate distances pioneers traveled from Independence, Mo., to the West, over the California, Oregon, Santa Fe, Southern, and Pony Express Trails. Children decided their measured estimates should fall within 5 and 40 miles of accuracy. Using different maps, each group came well within the range, and one group (Sante Fe) announced that they had "hit it on the nose!"

In a rural community, children of one school attended farm sales and used the experience for arithmetic in many ways.

Children publish a newspaper, sell copies, reimburse the school for materials used, putting profits into a general fund. Another school sells a paper for 5 cents and banks the money.

Sale bills are used once a week to teach all arithmetical processes and to work at consumer education.

One mixed 5th and 6th grade classroom uses five textbooks; also uses much concrete experience.

Children blocked out play areas for soccer, basketball, hopscotch, dramatizing the games to "prove the need for space." They gave the blueprint to the maintenance department for actual marking.

A 6th grade took over a grocery for a halfday at Easter time. They weighed the meat, took the money, and transacted all business. Later they gave a program based on their experiences, even including the price bickering.

In one city, children of grades 5 6 were divided into two groups for arithmetic. The more able group progressed rapidly; the other group increased their rate of gain.

Skills, Drills, and Games

Observations revealed many activities introduced for the purpose of achieving facility in using numbers and the number system. In many classrooms, especially in grades 3 and 4, devices were present to help children develop an understanding of the number system. The relation of units to 10's to 100's to 1,000's, and fractional parts. The children worked and "played" with these, the teacher requiring verbalization by asking pertinent questions. Games, frequently original with the teacher, also were used to help make the development of skill attractive to children.

Some of the activities observed are described below:

A student teacher had made slides and used a projector to drill first a small group of children, then one child.

A teacher says, "Various kinds of drill are found helpful for different children. The *electric answer board* is one method of drill. A column of combinations is written on one section of the board. The answers are placed on another section in random fashion. When the corresponding combination and answers are touched by the two wires a small flash light bulb is illuminated. . . . The *tape recorder* is sometimes used for

arithmetic drill. The teacher first records the combination, then pauses a few moments before recording the answer. The child plays this back to himself, listening for the combination and attempting to answer before he hears the recorded answer.

Children had small homemade cards with numbers on them. A child explained that red equaled thousands; blue, hundreds; yellow, tens; and white, units or ones. They made combinations in addition and subtraction as the teacher called them. They "wrote" numbers as high as 9,642. They then used toothpicks to write Roman numerals, as children wrote the numerals on the board.

"Bingo" was invented by the teacher. Child read cards, others covered answers.

The custodian of a school had made a large board about 36 inches × 36 inches, now scored like graph paper, with numbers horizontally and vertically from 1 to 9 and outfitted with hooks in all empty spaces.

"Answers" hung on another "uncoded" card. Combination called, two children competed to get card and hang it on the proper hook.

1	2	3	4	5	6	7	8	9
2								
3								
4								
5								
8								
7								
8								
9								

The group turned from their work to enjoy a game of "Quizmo". The teacher called the following combinations and children covered the answers:

$\frac{2}{3}+\frac{1}{6}$ $\quad\quad$ $\frac{3}{4}-\frac{1}{2}$ $\quad\quad$ $5\frac{2}{3}=$

$\frac{1}{3}+\frac{1}{6}$ $\quad\quad$ $\frac{1}{2}-\frac{1}{3}$ $\quad\quad$ $3\frac{1}{2}=$

$\frac{1}{2}+\frac{1}{3}$ $\quad\quad$ $\frac{1}{2}-\frac{1}{6}$ $\quad\quad$ $\frac{1}{2}-\frac{3}{8}$

A time line was drawn across a large chalkboard with the dates:

Before 1500	16th C. (1500's)	17th C. (1600's)	18th C. (1700's)

A child in a "gifted" group reported that she was studying the "history of mathematics and shortcuts." She had discovered that as you climb the 9 table, at each step the 1's become 1 less and 10's become 1 more, as 9, 18, 27, . . . 81.

The teacher drew a playground on the board. A child divided it into "2 equal sections," then into "4 equal parts."

A large piece of cardboard on an easel held horizontal rows of pockets. Protruding above each pocket row were pieces of cardboard bearing the figure 1 and equivalents as shown below:

1					
$\frac{1}{2}$	$\frac{1}{2}$				
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$			
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$		
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{12}$	etc.				
$\frac{1}{16}$	etc.				

Using the board and easel, children learned to write:

$1=\frac{2}{2}$ $\frac{2}{2}=1$ $\frac{4}{4}=1$ $1=\frac{4}{4}$ $\frac{1}{2}=\frac{2}{4}$

$\frac{2}{4}=\frac{1}{2}$

$\frac{1}{12}+\frac{1}{6}=\frac{3}{12}=\frac{1}{4}$ $\frac{1}{3}\div 4=\frac{1}{12}$

$\frac{1}{6}\div 2=\frac{1}{12}$ $\frac{1}{4}\div 3=\frac{1}{12}$

Teacher helped children understand ½, ¼, ⅛, by drawing a chart (similar to the above) before them. They then had combination drills, multiplying by 2 and by 3.

A teacher taught children how to reduce, using these rules:

Divide top numbers (numerator) into bottom (denominator).
If number ends in 0, divide by 10.
If number ends in 5 or zero, divide by 5.
If number ends in 2, 4, 6, 8, divide by 2.

The work involved long division, and the teacher explained meticulously. Children solved some problems at the board, explaining carefully. Children then worked individually at their seats.

In an "underprivileged" group were vocabulary needed to be developed, the teacher was introducing graphs: Bar graphs, pictographs, line graphs. The children looked up "graph" in their dictionaries. Using the index of their arithmetics, they found a temperature and rainfall graph, which the teacher helped them read. They were now going to learn *how to make* (construct) a graph, and *how to read* (interpret) a graph.

Teacher: (The same teacher with the same group of children.) We will use a scale. What is a scale?

Child: Things on fish. (The school was in a seacoast city.)
Child: To get weighed.
Teacher: Here is a small scale (a hand scale). How do you use it?
Children: Pull on it! (These children need and are getting careful help.)

In a "gifted" group the teacher presented this problem: Two gears' revolutions vary inversely as the number of teeth. A 48-tooth gear is driving a 72-tooth gear. Find the revolutions per minute of the larger if the small is 160 revolutions per minute (rpm). A boy went to the blackboard and wrote:

$$72 : 48 :: \times : 160$$
$$48 \times = 11{,}520$$
$$\times = 240 \text{ rpm.}$$

And this one:
The flywheel on an engine makes 220 rev. in 2 seconds.
How many in 8 seconds?
Is this inverse or regular?
Regular.
A boy wrote:

$$220 : 2 :: \times : 8$$
$$2 \times = 1{,}760$$
$$\times = 880 \text{ rpm.}$$

Evaluating Progress

Helping children evaluate their achievements, diagnose their needs, and plan for growth is part of a teacher's responsibility in arithmetic as in all other areas. This is more often done through informal, day-by-day, teacher-pupil conferences while a child is working at arithmetic. Sometimes it is done in a more formal way, after standard or teacher tests have been given, when a more exact or comprehensive picture of the child's progress is at hand. Usually, on the basis of teacher-pupil planning, teacher and pupils together diagnose the needs as those of an individual, a small group, or the whole class, and together they plan corrective or advance work.

Results of work in arithmetic are usually a part of the child's individual folder, available for parent-teacher conferences. In this, the child sometimes keeps a graph of his daily or weekly progress.

Summary

Survey of the material shows that in grades, 4, 5, and 6 teachers search for ways to extend children's understanding and use of whole numbers, fractions, decimals, and simple percentage in relation to the realities of living. They diagnose the children's needs through their own observation or tests or through standardized tests, and meet individual differences largely by grouping within the classroom.

Although some teachers limit their work to textbooks, fully as many are reaching out beyond textbooks for creative ways of helping children grow. This latter group of teachers are challenging children to look into the world of number, things, size, shape, sound, movement, rhythm, and distance; and in doing so, are awakening the children's mind to a world in which mathematics plays an intrinsic part. The same teachers are reexamining skill and drill in terms of meaning and use. Thus, they turn examples into problems, which challenge the child to find an answer.

Chapter VI

The Arts: Music and Rhythm, Visual and Manual Arts, Creative Writing, Literature, and Dramatization

EDUCATORS HAVE APPRECIATED for a long time the deep significance that originality or creativity has for individual and group growth. Many processes now demanded by society and used by industry are the very processes which educators have been using to release and coordinate thought and stimulate action, or to help children and staff solve problems in the school.

It is now well accepted that *creativeness is growth*, that whenever an idea occurs to an individual which he has not known before, in any field of living, his intellect has created something which to him is new; it has formed a new relationship. From differentiation in this power to grow, which all possess, come the "gifted," and the "genius," who see relationships more quickly than most, or who see many relationships at once; or who (like Einstein) project their thinking to see relationships completely hidden to most of us, or who can translate ideas into objective accomplishments.

In school, teachers deal with all children who come and with themselves as well. How to keep inner revelations or insights "on the march" in each child's mind, how to encourage and channel expression of thought so that contributions will keep on flowing, how to bring to each child's mind the discipline which comes from benefiting from the experiences of others and yet keep alive the "imagination"—this is the intimate task of education.

Today, our society has put the stamp of approval upon creativeness in our schools. The creative teacher, the creative thinker, may now come out of his secret corner and dream aloud. What society will do with the gifts that are revealed is not within the educator's realm to foretell.

The creative (unafraid, resourceful) mind (teacher's or child's) knows no subject-matter boundaries. It encompasses all areas, not one area alone. Studies on people who are facile in seeing

relationships prove this to be true (82, 94). The creative teacher, able to utilize the unit method of teaching to great advantage, feels hemmed in by more restrictive ways of dealing with knowledge about the world and ways of expressing ideas.

Such teachers were observed in this study. Taking a theme on space travel, agriculture, music of the world, around America, the book fair (or any other theme centered in basic human activities), they are able to open windows for the children—and themselves—back into the ages—into the now—into the future, integrating knowledge around the experiences of children.

As paint flows from the brush of the artist, interests flow from one area into another. The chief hazard is that the flow itself will be so exciting and engrossing that a concentrated look at what someone else has said must be learned or what skills must be mastered may be overlooked. The guide must put out a stop sign now and then to *look at* "what we are learning" (and not learning) and "how we are growing."

The particular interests of particular teachers cause them to concentrate sometimes on development along certain lines. One teacher may have cultivated a particular genius for helping children learn to get along with others, even in difficult cases (an artistic gift); another for giving children opportunities to develop self-management; another for encouraging them in self-expression —in music, art, writing, drama, and occasionally, the dance. Each, through her own gifts, can help children appreciate things more deeply; each can also help children explore their own gifts.

This chapter will deal briefly with music and rhythm, visual and manual arts, creative writing, literature, and dramatization, as discussed in conferences and observed in schools, attempting to indicate work that appeared to be creative. It will be obvious how the creative teacher sees relationships and helps children see them not only within the subject but across subject-matter lines. Since functional writing has been dealt with in language arts (pt. two, ch. IV), only the more obviously creative experiences in writing will be treated here.

Experiences In Music And Rhythm

In conferences and interviews, educators seemed to agree that the chief function of music in the lives of boys and girls is to

provide an outlet for the expression of thought and feeling. This is achieved sometimes by using words, sounds, or movements others have created which seem particularly apt, or universal. Examples are the way one may express feeling through using the poet's words:

"I wandered lonely as a cloud . . ."

"Oh, to be in England, now that April's here . . ."

or the songster's music; or the folk and ballroom (sometimes ballet) dances.

But a different quality of expression comes about when the personal self projects words, sounds, or movements designed especially to express what is within and yearning to find form.

In many schools a great deal of attention is given to helping children find out how others have found expression (the historical aspect of creative fields). With some individuals, this vicarious expression may satisfy self-expression. Evidence that self-satisfaction is found through the product of another person is revealed by the soulful look in a 5th grader's eye as he sings, "Home on the Range," and a 6th grader's as he sings, "Robin Hood, Oh!"

Many songs are learned in school, usually from music textbooks although teachers attempt to relate the songs through the social studies to the scenes which produced them. Singing time is now a gay time in most schools. Music specialists are skilled in helping children overcome weaknesses in music and also in helping teachers become more proficient in teaching music. Children formerly called "nonsingers" are located early and so by the time they enter 4th grade are no longer nonsingers. Choral speaking is now a part of both the reading and the music program. Two-part singing is common in the 6th grade; singing of rounds in all grades. Music round the world is a popular theme in grades 4 and 6, and American music in grade 5, although this is not a consistent pattern.

In many conferences the large concert or choral singing groups were discussed as illustrations of ways in which children with more than ordinary singing ability may be brought together. One school system combines about half of each grade for these concerts. In a rural State, teachers said children even come into town on Saturday for group and individual work, furnished free by the school district. In another area, children come to school early in the morning to take advantage of special music privileges.

One teacher whose children sang with more than ordinarily beautiful tone quality said, "I teach them to listen. I think that's why they do so well."

In one 5th grade, a teacher was helping children define and delimit a unit of work on music of the U. S. A. The question was whether they would take it by types of music or by regions of the country. Several groups were formed, and they examined songs in books to try to make up their minds. While doing so, a group of boys became occupied in figuring out a hillbilly tune. Maps were down and children were going back and forth from books to maps, talking freely about regions and songs. When the class closed, it looked as though they would choose the geographic divisions. In either case, under such a comprehensive teacher, it was certain they would have a profitable and enjoyable study.

Toward Thanksgiving, a 5th grade had arranged their music corner to show music from early colonial days. Shelves held musical instruments and books; a large poster of a puritan figure carried the words: "The music of the puritans was somber." On one side of the figure was the "Doxology," and on the other, the "Hymn of Thanksgiving." A piano was in this corner, and at free times, children played it.

Another school does much with music in creating an atmosphere as children are moving to the lunchroom and at other times of the day.

Musical instruments are frequently improvised, and teachers and children enjoy using them:

A 6th grade made drums out of cardboard cylinders to accompany themselves in singing American ballads.

A 5th grade made many instruments out of boxes, cans, and pieces of wood.

Educators in various conferences held in relation to this study agreed that music experiences satisfy certain needs of children and that some may achieve a degree of success in music which they might not achieve in other subjects. No child should be denied the privilege of enjoying music.

Many believed that instrumental music is so important that time taken for practice during the day is time well used. Opportunities are provided by many school systems for children to learn to play a musical instrument, beginning, usually, in the 4th grade. In the elementary school grades, opportunities to learn to play instruments generally end with a concert for parents. Some schools, however, have a school band with the children continuing their musical interest into junior high school.

In a 4th-grade classroom, children were using autoharps. They were so well liked that parents had contributed 2, and now the room had 4. In the lesson observed, the class sang a known song, learned a new song, and ended with a known one.

Music and rhythm are combined in many schools, giving children opportunities to learn the dances of their own and other countries. Folk and ballroom dances, such as the *Virginia Reel*,

Public Schools, Detroit, Mich.

The school band encourages musical talent.

Hook and a Whirl, Head Couples Separate, Lady Round the Lady, and Texas Star, are well liked in these grades by both girls and boys.

Appreciation of musicians and great works of music also have a part in the education of children in the schools visited. One teacher reports activities in her room:

> Each day in our 5th grade is started with music. Records are played as the girls and boys come in, the name of the selection and the composer is written on the board, and the children promptly write this information in a small notebook. Sometimes the selections are light music such as excerpts from "The King and I" or "Carousel" (which we sing along with the music), but more frequently we hear the classics. Very often the children draw what they hear, and sometimes they write a story to go with the music. In either case, they are developing a habit of listening to good music as well as an ability to interpret what they hear. The program brings out the occasion for research on the composer, too. Eventually we plan to extend this program into a music memory contest.
>
> The response from the children has been so overwhelmingly enthusiastic that they ask for the music again at lunch hour and in the afternoon. What better way to start the day than with music? Some of the selections used in this program so far are:

Beethoven: *Piano Concerto No. 4*
Brahms: *Three Waltzes*
Dvorak: *Four Slavonia Dances*
Mendelssohn: *Midsummer Night's Dream*
Mozart: *Symphony No. 40*
Offenbach: *Gaite Parisienne*
Prokofiev: *Peter and the Wolf*
Rachmaninoff: *Piano Concerto No. 2*
Schubert: *Unfinished Symphony*
Smetana: *Bartered Bride Overture*
Strauss: *Waltz Fantasy*
Tchaikovsky: *Nutcracker Suite*

Children in another class wrote "How This Music Makes Me Feel" or "What This Music Makes Me Think About" as they listened to a variety of records.

Three groups of 5th-grade children sat on the floor of a small auditorium (their teacher present), watching and listening intently to a television program of music beamed particularly to 5th graders.

A panel of 6th-grade children reported on great musicians. The boy reporting on Chopin demonstrated on his toy piano. Other children reported on Brahms, Stephen C. Foster, and Mozart. Following the reports, panel members asked questions, then other children were invited to do so.

In several cities children have opportunities to go regularly to hear the "live" performances of musical performers who come to the city.

The question was raised in conferences whether the regular classroom teacher should be expected to teach music. Some believed that specialists should be available to help her but that the important thing is for the specialist to give guidance to the teacher rather than teach the children from day to day. The classroom teacher who feels inadequate in music can make good use of those children who excel in it. This gives them an opportunity to help.

Many teachers have become skilled in helping children learn some of the simple technical aspects of music. Excellent lessons were observed in helping children learn more about the scale, the staff, note names and values, and time and harmony. In an outstanding example with a very able 6th-grade group, a young man introduced the 8-note staff as a science of sound arrangements. He then asked, "How do you play music for a funeral?" "Slow and sad," was the reply. "For a parade?" "Happy, fast!" "What time sign is used for both?" "3/4."

Drawing an oval, he asked what it was. "A whole note." "Yes, if we're talking about music, everything is relative to the whole note. Who helped the world to know more about relativity?"

"Einstein. He said that everything is relative to something else." "Yes," replied the teacher, "and in outer space, all known relationships fail. There are many exciting new relationships to discover!"

"Anyone can write music if he knows arithmetic. It may not be *good* music, but it is music of a sort." (Children laughed.) "Write six measures of ¼ music using different combinations of whole, half, quarter, and eighth notes." The children did this. One boy played his own music on his flute, and then played what some other children had composed. True, relatively it was not good music, but it *was* music, especially to the ears of the hard-striving composers.

Experiences In the Visual And Manual Arts

Schools have learned to utilize many situations to encourage art expression for children, and the effort has been of benefit to the environment as well as to the children. Gone—but not entirely—are the patterned, stenciled, copied, unimaginative work of past decades which in many schools went under the name of art. Everywhere observers in this study saw murals, paintings, and other childmade products. Landscapes, seascapes, mountain peaks, farms, portraits, realistic and abstract, were present in the schools, done in water paints, transparent and opaque, crayons, chalk, pencil, ink, cloth, wire, straw, sponges, sprays, leather, raffia, buttons, coathangers, papier mache and combinations of these and other materials. All sorts of materials seem to be grist for the artist's mill. Two-, 3-, and sometimes 4-dimensional objects take form as pictures, murals, dioramas, mobiles, and table or floor models. The element of creativity is evident in the variety and in the lack of the commonplace.

Endless themes for artwork emanate also from the social studies (the west, our government, other countries, activities of peoples of the world, trips). Some stimuli also come from other experiences at school in mathematics, schoolroom arrangement, homemaking, woodworking, language arts, holidays, hobbies of the teacher or child, and many other sources.

Much of the artwork showed evidence of teacher initiation and considerable teacher direction. In many instances, however, it also showed that teachers recognize and provide for children's need to express what is on their own minds—an emotion, a fear which

has left a strong impression, a new and exciting observation clamoring to be clarified, a teasing recollection of a joyous experience, a new insight, an experiment in color or material waiting to be tried, a figment of the imagination, even a bit of humor.[1]

Teachers remarked, however, that many children stop trying to express their ideas and feelings in art during the years 9 through 11. Their own developing facility for self-criticism, as well as their desire for approval of adults and peers, seems to get in the way of the uninhibited expression of earlier days. In order to encourage expression, teachers make it easy for the children to find materials and a place to work. Some set aside special areas in the classroom, usually near the sink, as supply centers or as centers for actual art work. These areas hold easels, drop shelves or tables, shelves for books about art and artists, materials (such as different kinds of paper, crayons, chalk, paints, and brushes), and a cupboard for clay. Here children go when there is "something which must be said" through an art medium.

Teachers also study the children's reactions to their own comments. Some children are better left scarcely noticed or at the most recognized very quietly, while others do better under praise or encouragement. All, however, must feel that the teacher understands or is sympathetic with them in what they are attempting to say, and that she will help them or will secure help for them from the specialist when they need it.

In some schools, the art specialist [2] works on an on-call basis, giving the greatest benefit of her own time and activity to building up teacher skills. In this case, the classroom teacher is responsible for the art program, understands the goals, has some facility with materials, and knows that the art specialist is a resource person who will help when she and the children need help. The art specialist working in this way may:

confer with teachers individually or in groups about values in art, methods, materials, objectives, or any other mutual interest.

come to the classroom to help all the children experiment with some new skill or material, or to introduce works of artists.

work with a committee in organizing a mural background for a play, illustrating reports for other children, or in many other ways.

Again, however, the art specialist may work more as a rotating teacher who teaches the children or as a demonstrator who shows what the class is expected to do.

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[1] Cole, Natalie R. *The Arts in the Classroom.* New York, The John Day Co., 1942.

[2] Other curriculum specialists also work in similar ways.

Children learn art values by both direct and indirect means, the teacher trying to encourage values which she thinks children are prepared for. To one child, she may say, "John, you make fine horses. Have you ever tried kittens—or cows?" To another, "You're having trouble with watercolor. How about using pastels until I can help you?" To another, "Your colors are very bright. Is that the way you want them to be?" To another, "Your picture is so tiny and your paper so big. Did you want the effect of being lost in a big place?" To another, "Good. That makes me feel all peaceful." (Or "angry" or "weary", as the case may be.) And to another, no remark at all—just an understanding look.

Again, a teacher may say in effect to the class, or to a small group, "Let's look at our 'techniques' today. Who wants to bring up his picture and let us talk about it?—Good, Mary. Is there something you want to tell us or ask us before we start?" After Mary has had a chance, children discuss "why I think that's a good picture," "what Mary did that was good," "how Mary might improve it." In so doing, the teacher has opportunity to introduce or emphasize values and to note where help might be given. Children learn to explore various media (presuming the work they are examining *is* varied); and, if the human relations are good, they develop a feeling that others are interested in their work.

A few of the art experiences observed in school visits or reported in conferences follow:

A school system placed special emphasis upon creative art. Children were encouraged by their teachers to work with many kinds of materials. Throughout the halls of the building and the rooms in which teachers were to meet for a midwinter conference, were examples of children's artwork, from all levels of the school, 1st grade through 12th. In the main hall was an especially interesting panel about 3 by 5 feet. On this appeared the figure of a man in formal dress, complete to cuff links, as a kind of announcer for various school activities emphasizing artwork. One of the murals showed a teacher's desk with children gathered around with samples of their artwork. All of the art on the panels was done by pasting colored paper to give a 3-dimensional effect.

In a 4th grade every child was making a watercolor painting 24 inches x 36 inches. That they had been given freedom of choice was apparent, although spring flowers and Easter symbols dominated. The classroom teacher was seated with the children, making her own painting. The young man art teacher was encouraging a boy who "couldn't paint anything."

A 4th grade collected leaves and mounted them between waxed paper and plastic.

A 4th grade made dioramas of the universe and relative positions of the planets.

Another 4th grade constructed the universe with styrofoam planets proportionally sized. They hoped to make them move to show the orbits.

Many 4th grades made booklets with decorative covers.

One grade 4 displayed simple ceramic pieces chiefly of animals and weaving—small pieces by individuals—and one large rug on which a whole group had worked. They also displayed small individual pieces of embroidered canvas, simple types of mobiles, and flat pictures done in tempera. Certain panels had been made by pasting paper in colors on brown paper in order to add another dimension.

A 4th grade visited the central office "to see what people help our schools." The trip was rewarding in many ways. The children were especially impressed, however, by the art supervisor's quarters, where he had "so many things children could use!" There were clay, paper of different colors, crayons, paints, newsprint, yarn, pieces of inner tubes, cloth, wood, and other things. They were impressed, too, with how many things he had collected to help teachers learn how to help pupils.

In a 5th grade, a huge covered wagon, authentically done, filled one complete end of a barnlike classroom in a portable structure. "Every item is authentic," the teacher said. "The children saw to that!" This room, too, held a large mural of pioneers going westward, and another large one, in the making, of our Government.

A classroom bulletin board held etchings of trees and shrubs against the earth and sky. Method: The earth shown in a crayon, an ink blob blown to make the spray. The effect was delicate and decorative.

Children turned their seats to face each other in pairs. Using a large sheet of newspaper, they painted each other's portrait, decorating the background as they saw fit.

Papier machié masks were made for Halloween.

A 6th grade told the Christmas story in handmade, etched-glass lantern slides.

A mixed 5th and 6th grade group "used various methods of constructing pottery, have used press molds and slip casting, and have experimented with glazes and decoration. The children are greatly excited each time the kiln is unloaded."

A 6th-grade group worked in committees to show how geometric forms are used. One made a mobile of geometric figures; and others, a scale model of a futuristic home, a table model showing how the modern car uses geometric forms, a rocket ship, and a line drawing of the human face, pointing out the eye arc, the straight line of the brow, and the obtuse lines of the jaw.

A 6th-grade group used sponges to "paint" their impressions of abstract qualities: Flight, fury, summer, rain, beauty, the sea.

A class had made beautiful abstract paintings of Debussy's *Claire de Lune*.

In a club period, the principal showed the art club how to use chalk in broad strokes. As a result, the children had much pleasure in drawing dancers, horses and riders, imaginary animals, self portraits, and other exciting things. These now decorated the hall.

Maps of the universe, the earth, the hemispheres, and paintings of life under the sea, were executed in artistic color and form.

A 6th grade studying the International Geophysical Year had made many maps and paintings. Among those on display were a painting of the ocean floor and oceans, a map showing weather characteristics over the U. S. A. (duststorm region, most tornadoes, windiest city, and others), a map of the polar regions, diagrams of the atmosphere, and a seismograph.

A 6th grade studying American Indians in a comprehensive way had a loom (on which every child who wanted to would have opportunity to make something), salt and flour maps of the Americas, and clay models of various objects suggestive of Indian art.

Not only are art corners in classrooms worthwhile. Special quarters designed as artrooms in some schools prove their worth in stimulation and skill. Here children of the entire school come at scheduled and other times under certain arrangements to use the space, equipment, and help of the special art teacher or their classroom teacher. Projects may be related to classroom work or may be individual. One large art room in a school of grades 1–8 has areas for painting, woodworking, clay modeling, and simple metalwork. This room is seldom without children. They come before and after school, on classroom schedule, and at free times. In the art room of another school, only gifted children come and go freely.

Public Schools, Oakland, Calif.

Building a model plane helps a boy clarify principles of aviation.

Public Schools, Ontario, Calif.

Indoors or out, a manual arts corner is an inviting place.

In an artroom of one school, children were making block prints and painting pictures or looking at artbooks. Elsewhere in the room children were weaving on handmade looms, knitting, crocheting, cooking, sewing. One 11-year-old girl proudly told a visitor she had made the skirt she was wearing, and a girl at a machine was making a similar one. Another girl was making a blouse, still another a wall hanging, and one was just learning to use the sewing machine. In the woodworking area, children were filing, sawing, hammering, and painting. The finished products would be stools, cabinets, tables, baskets, miniature boats, nailchests, and boards for hanging tools.

In another school with an artroom which had many similar evidences of children's creative work, the art teacher explained, "We help them with whatever is on their minds."

Appreciation of the works of artists is sometimes a part of art experience:

> In one 5th grade, children were waiting for the time to go to the art-room. The classroom teacher checked to be sure each knew what he was to do. Then she showed a new book she had just received on Renoir. She placed it on a table with some other artbooks and invited the children to examine them. Some children immediately formed a circle, looking at the books.
>
> Several school systems have arranged with art museums to borrow pictures. The children help decide on the pictures to be borrowed, frequently selecting abstracts. (In return for the picture loans, one museum requires artpieces made by the children.)

In many schools, artistry is not restricted to the art program, for it pervades the entire school day. The environment itself encourages artistry in surroundings, and good human relations among adults and children encourage it in all living. Schools now are rapidly becoming "nice places to be in." Color and light, especially when used expertly, have done much to brighten the schoolday. Buildings are planned to accommodate children's activities, although the arrangements are often distorted by overcrowding and the need for expedience. Classroom map rods and bulletin boards enable the teacher to mount materials attractively; provisions for hall displays facilitate school sharing of the children's handiwork. Bookcases and other shelves encourage neatness and assure availability. Portable furniture and equipment carriers make it possible to adapt space to advantage. Only the too-crowded classroom or the too-short day makes it difficult to teach and learn.

Experiences In Creative Writing

As in other creative areas, so in the areas of writing, children in some schools have many opportunities for writing their *own* thoughts and feelings. At conferences, educators paid tribute to what such experience does for children. "The atmosphere's the thing," they said. "The environment must make it possible for children to say and write freely without fear of criticism." The feeling seemed uniform that technical corrections endanger free writing, discouraging all but those with the greatest self-confidence, so that most cease trying.

There is danger that the teacher's ideal of excellence may also stand in the way. Jingles are not to be confused with honest expression of a poetic thought at any age, although playing with rhyming words and rhythms can be fun. Attempting to use new vocabulary words for which no meaning has come to be felt may utterly defeat creativeness in writing, putting in its place imitation and insincerity. The demand for a certain length may defeat preciseness or elaboration, putting controls ahead of freedom of expression. The environment *is* important; the teacher must take the child's expression where it is, for what it is and for what it is trying to say.

A teacher listens to children, and when she happens to hear an especially poignant phrase, she jots it down. Her notations are "looked at," by the class or by the child and his teacher. Thus the teacher encourages sincerity and personality in expression.

A teacher invites children to drop their writings into a folder. Each marks the writing "For you" or "For everybody." She reads each and has a conference with the writer. Interesting, revelations reach her in this way.

A 6th grade studying aviation was invited by the teacher to compose *Flight Gems* for reading to the class. Some were limericks; some, loosely written verse; and some, prose.

A teacher has a corner called "Our Writers' Corner." Here writers are *not* to be disturbed by anyone but the teacher, and she, only if necessary.

A teacher says that when her children are tense, tired, or noisy, she asks them to relax and read. She also keeps several interesting books or magazines at hand from which she reads softly to the children. "I may read an article, start a book, or read poetry. After such a period there is always an increase in our library circulation or a noticeable desire to write or memorize a poem. The tenseness and noise have disappeared!"

"In English we have enjoyed writing 'tall tales'," reports a teacher. "The class as group makes up a 'tall tale,' starting with some bit of truth and *stretching* it. When the group becomes so enthusiastic that each one gets excited to make his contribution, I ask the children to make up their own 'tall tales.' We have much fun listening to the reading of these imaginative stories."

Many teachers utilize the excitement of the holidays to encourage writing stories or poetry. These are sometimes illustrated for decorative purposes; sometimes they are made into "books" for the class or the library, or for younger children.

A principal writes: "Several years ago, we decided that instead of producing a monthly school newspaper containing the usual chitchat of gossip, we would produce a quarterly creative writing magazine, accepting contributions from all grades. The pages of this magazine are available to any child whose teacher feels that he has produced

a poem or story sufficiently original to warrant publication. Over a period of years, this has proved to be a considerable incentive for improved language arts work in all grades. Of course, 1st and 2nd graders are not sufficiently mature to do very extensive work. However, we have in many instances included stories from child to teacher. Each issue is distributed to all children in the school, and it is then used by the classroom teacher for a series of reading lessons, thus making use of the publication in much the same way that a primary teacher would use an experience chart. We have found that motivation to read this material is high, partly because the children are themselves the authors and partly because standards are high enough that the stories are intrinsically interesting."

To encourage creative writing the central school office in a large city collects, compiles, and distributes to all schools materials children have written.

Following are examples of creative writing from schools observed. Each was chosen for what appeared to be some element of unusualness.

In Autumn

In Autumn pretty leaves fall
And Jack Frost paints everything gold
While the wind blows bold.

Vermont in Fall

Vermont is so pretty in the fall,
the maples in their golden gowns,
And their pretty notches all,
and the little Mountain towns.

Leaves

As I walked to school this morning,
I saw red leaves blowing. They made
a painting on the Ground. Brown
swirls on the Ground.

The Pioneers

The pioneers are moving west,
And slowly the oxen plod,
Over the mountains, into the plains,
Across the rock and sod.
Into the highlands, across the hills,
The covered wagons ride—
Through rivers wide and canyons deep,
Across the Great Divide.
Over Kansas plains the wagons move
Toward the setting sun.
These travelers will never stop
Until their journey's done.

On to Oregon!

Rocks, rattlesnakes, and alkali dust—
That's all I've seen since last August!
On the plains we met with Indian attack,
But our faithful flintlocks held them back!
Still westward we feel that we must go.
Have to get there before the snow!
We've conquered the Rockies wild and high!
We're bound to reach Oregon by and by!

The Pioneer's Dream

The wagons roll the whole day long;
At night we stop and sing a song.
Around the campfire warm and bright
We hear the sounds of summer night.
Up in the morn at break of day
Again the wagons roll away.
Over rugged mountains and rushing streams.
Each pioneer follows his restless dreams.

Trail Troubles

We're about to ford the river 'cause
we haven't got a boat.
We're about to try to cross the stream
and the wagons just won't float.
Them animals on this old trail,
they ain't so fat no more.
They'll never pull the same old load
as they once pulled before.
The food we eat, it ain't so good!
It just don't taste like it durned right should!
But get there in the end we must;
It's "On to Oregon" or bust!

And a worried little boy found an outlet for his feelings:

In my house there is a stuffing, rushing dish noise and confusion.
My relatives can't come because they live too far away.
But there are still cousins in our house.
The crashing of the table and chairs
On top of it all my cat getting in the way,
Tripping, meowing, and making a nuisance of himself.

Not all creative writers in schools turn to poetry for expression: some write poetic or imaginative prose.

What Is Music?

These are music moods:

. . . the softness of a sweet singing lullabye,
. . . or the dullness of the dragged-out blues.
. . . the loveliness of a Spanish dancer in the brightness of red, fiery suns
. . . sometimes the tips of the girls' or boys' toes jitterbugging to the fast beat of jazz.
. . . bongo, congo, rongo drums making it come out Calypso.

What Is Music?

Jazz:
a rhythm,
a snap of the fingers,
a clap of the hands,
a shake, rattle, and roll.

Calypso:
a feeling in music.

Lullabye:
a dreamy sound,
a sleepy feeling.

I Fear:
. . . the dark emptiness of depths,
. . . the silent movements of shadows,
. . . the vast gray-black color of space,
. . . the bright red of a fire,
. . . the frightening echoes of a haunted house,
. . . the bloodshed and dirt of war,
. . . the sickening smell of blood and sweat mingled together,
. . . so much silence that it sounds,
. . . the sharp crack of lightning on a hot night,
. . . the thought of my family dead,
. . . being alone in a never-ending world of space.
I fear these things.

Listening to Prelude, Act I of Lohengrin

Twilight is coming . . . Then much later, the dawn breaks and the sun comes up. Little animals of the forest are awakened by the music of the wind. They see frost, a glistening, white, tingling thing in the sunlight. A bird starts singing . . . music soft and sweet fills the forest.

A Description

The double-trunked tree grew stately toward the sky on the mountain's side overlooking the gleaming bay.

From the mountain could be seen shining red rooftops of small village homes. Villages whose streets went winding in and out like huge snakes.

Live It Up!

WELL! So that's what it is, man—
You finally got a promotion!
Well, man, aren't you proud?
Now you can run home and tell your wife and kids.
Won't they be proud of you?
Now you get 2 whole weeks vacation.
No more cleaning out the sewers.
You are a big man. Let's see you live!
Live it up, man! Live it up!
Now you can tell your mother-in-law.
She always thought you were a bum.
Come on. You're a big man. Let's live it up.

Morning

Early in the morning when I wake up I see the stars looking like newly cut diamonds and the misty frost on my windows. As I sit up in bed I see the frost on every flower and blade of grass. Quietly and slowly up comes the sun and makes a bright pink and violet sunrise.

Stories written by children about many subjects and showing wide ranges in ability were read proudly by their authors. Some took listeners into space travel in ways which reflected science fiction and television, sometimes revealing depth and breadth of thinking and understanding. Others dealt with personal matters, close at home.

A 4th-grade boy wrote:

Can-Can

"Can-can, your lunch is ready," called his mother.

But Can-Can did not hear his mother because he was across the other side of the meadow looking at a signboard. On it was a goat eating a tin can.

At last he came to the place where his mother lived.

"Can-Can," said his mother, "didn't you hear me call you?"

"No, Mama, but I sure am hungry! May I have some tin cans, maybe four?"

"Nonsense," said his mother. "Goats don't eat tin cans." Now eat your nice alfalfa."

"No, no, Mama, please, just one tin can."

"All right," said his mother, and gave him a shiny tin can.

He chewed and he licked and licked and still no taste to it. He got madder and hungrier! He ran across the other side of the meadow until he reached the signboard. He butted and butted until nothing of it was left.

A girl in grade 5 wrote:

Myrtle the Elephant

One day in a faraway village, the circus came. There were elephants, camels, horses, cotton candy, hotdogs, and games.

In one of the elephants' tents there lay a baby elephant. It was the cutest elephant you ever saw except for one thing. Its name was Myrtle. Myrtle was very unhappy with the name because everyone made fun of it. They said, "Myrtle the overgrown turtle, and Myrtle wears a girdle."

"The next day the big show went on in the big tent. Bareback riders, lions, tigers, and then it was the elephant's turn to go on, but no elephant appeared! The ringmaster came out on the stage and announced that all the elephants were sick, with the exception of Myrtle. Then the ringmaster whispered "psssst," bring out Myrtle.

Myrtle came out prancing into the ring. This was her big chance. It was the first time she had been allowed to do her act. She did things the other elephants couldn't do. One of the best stunts was walking on stilts. Imagine that!

> The crowd was amazed and clapped their hands and whistled. They shouted, "We're sorry! We apologize! You're terrific, Myrtle!" Now Myrtle knew at last that she was loved and that the boys girls would not tease her anymore.

One librarian has a book club. She helps children prepare reports on the books they have read and sponsors dramatics and a quiz program.

Eight junior librarians, 6th graders, are trained by the librarian to put away the books and the library cards. They help "little ones take out books."

One 5th-grade room was literally alive with children's interests. The visitor stepped over to a table to see an interesting display and immediately sensed a quiet "crisis." All eyes were on her. The teacher appointed several children who came to the visitor to explain. In 8 pans were 9 stages of the development of a tree frog, the ninth stage being the real, live, full developed animal. A boy pointed out some bones in a box, saying, "One frog died and we cut him up. See, he has a frame just like ours!"

In another box was the egg case of a praying mantis. Seventy young ones had been born. "We had to let some go. We're going to cut up this egg case to see how it's made."

Explorations In Literature

That teachers and principals give particular attention to surrounding children with fine literature is evident in the libraries and classrooms of many schools. Along with the supplies of factual material in science and social studies are works of literature such as *Alice in Wonderland, Hans Brinker, Heidi,* and *The Little Lame Prince;* and stories by such authors as Alcott, Brock, Blough, Dalgleish, Marguerite D'Angeli, Daugherty, the D'Aulaires, Helen Ferris, Doris Gates, Kjelgaar, the Petershams, Howard Pyle, Arthur Ransome, Glen Rounds, Sperry, Phil Strong, and Wilder. School systems in many areas now correlate lists of fiction and nonfiction with social studies themes so that the books may be suggested for reading at a psychologically helpful time.

School and community librarians are cooperative in helping children know what is available by advertising their wares and by guiding children through indirect and direct means, among which are posters, book covers, and display spots. Children are

sometimes invited to help, on the principle that participation spurs interest.

Classroom experiences may stimulate the reading of literature. In a 6th-grade class where evidences of wide reading were all around, the teacher opened a discussion of why authors write. Replies were: To tell something, to explain something, because they like to. And one child remarked, "They have to know a lot about the subject."

Do you know one author we've talked about?"

"Doris Gates."

"Do you know how she knew so much about horses?"

"She loved horses."

"She lived near the racetracks."

The teacher read a bit from Doris Gates' autobiography and it bore out what the children had said. They were impressed.

When introducing *The Blue Willow*, the teacher explained that Doris Gates often saw migratory workers like the ones in her book. The teacher then introduced *My Brother Mike*, also by Doris Gates. The children knew about her—she had visited in the city. With that, the principal, a former 3d grade teacher, asked to make a contribution. Miss Gates had visited her classroom once, she said, and a boy in the class who had no brother had read his description of the brother he wished he had. He had called it *My Brother Mike.* The author was so caught by the idea that she went home and wrote the book, *My Brother Mike.* The children were deeply interested—and interest in reading that book was particularly evident.

In another room of the same school, children were giving book reports, some alone, others in pairs, as news reports are sometimes done on television.

In another school, the children of one class made puppets to illustrate stories from literature. As children went by the visitor, one child looked up and volunteered, "This is a wonderful school!"

The children of another class wrote caricatures of characters from literature. The trick was to guess who it was. Following are two examples:

Caricature of Rumplestiltskin

He was a queer looking old dwarf about 3½ feet in altitude. His hat was also a queer thing, kind of conical shaped but bent over a little with a disfigured feather stuck in the brim. His hair was gray with flakes of brown here and there. His eyes were gray and showed mischief but twinkled most of the time. His clothes were filthy and torn. His mouth seemed like it was always sneering. His face was like rubber but

he had rosy cheeks. His shoes turned up at the toes, and his walk was like a horse at a slow trot. His temper was awful, it scared everybody around him, but what he liked most were babies because he had never been or had one.

A Caricature of Pinocchio

Pinocchio's structure was of wood so hard you could slam a mallet on him and never dent his surface and of course he would never feel a trifle painful afterward. When this remarkable fellow lied, well, his wooden nose grew to at least twice its regular size so you could mistake it for a limb of a cedar tree. His features were painted on with vivid colors that stood out like a tropical fish stands out in a bowl of plain guppies. He had no hair except the carved grooves on his head painted the color of finished mohogany. He wore paper clothes of a scarlet color. When he walked, his wooden feet made the sound of a dinosaur walking on wooden planks. Pinocchio crashed into a lot of trouble, and when he did, his smiling face changed not into a terrified look because he was not just a puppet without strings.

Drawings and paintings in classrooms and halls illustrated books which the children had read: Adventure stories, animal stories, science stories, myths, poetry, and humor. The reflection of television could be seen in many of them, especially in a series of beautiful paintings illustrating Romeo and Juliet.

Guides written by and for teachers encourage the children to read widely and they themselves sometimes balance their selections. "We read at least one nonfiction book for every fiction book," said one child. At times charts are posted to show the books each child has read. There is every reason to believe that children are reading more widely and are reading better books than ever before; and no one is searching harder than the teacher to find even more fruitful ways to promote reading.

Experiences In Dramatization

Dramatization is a comprehensive art, giving opportunity to interrelate all other arts forms: Communication, music and rhythm, visual arts, and literature; sometimes even designing, sewing, and building. Since children in grades 4, 5, and 6 turn naturally to dramatization in playlife, teachers have learned to make use of it in the classroom. There, it performs many functions: Making an historical or faraway setting seem more real; increasing the sense of identification or personal participation, helping to clarify group, family, and citizenship responsibilities;

stimulating research and developing a regard for accuracy of detail; giving outlets for feelings (a therapeutic role), sometimes through shadow-play or puppetry; and providing a channel which interrelates art experiences naturally. . .

Public Schools, Detroit, Mich.

Making puppets can be a creative activity.

Dramatization, say teachers, is most useful within the regular classroom as part of a day's work, to enliven, intensify, or clarify reading lessons, book reports, events in social studies—even problem situations in which children find themselves. Occasionally, too, dramatization is used before an audience in auditorium, radio, or television programs. It is these audience situations that call for the greatest interrelating. Frequently a play is composed, even written. Scenery must be prepared, music and other entertainment features planned, invitations written, and a myriad of other pre-performance things must be done.

Examples of dramatizations reported or observed during this study include, in addition to those for reading and books reports, plays on such topics as *Aviation in Rhythm, Dance, and Story, Castle Life, Dolly Madison, Harvest in Brazil, and Life in Mexico.* A *This Is Your Life* series simulated television and the teacher said the plays helped her understand her children better.

One program which the observers saw was held in a classroom for the members of the class. It included reading of original stories and poetry, square dancing, discussion of the children's paintings which were all about the room, singing of favorite songs, and serving of food made by the girls. Another class prepared a series of little plays about certain books for presentation to their parents. Committees discussed ways of acting and ideas for costumes.

"Dramatic performances," said teachers in a recent workshop on the creative arts, "should not be allowed to become too polished. All gain for the children is ended when the work ceases to be creative and becomes rigid or stereotyped."

Summary

From the foregoing accounts of school activities, it appears that many elementary schools of our Nation are aware of how important creativity is everywhere in life and that they are offering children opportunities and guidance in its development. Although sometimes limited as to space, materials, and staff, children do have chances to carry out creative activities in rhythms and music, visual arts, writing, literature, and dramatics.

More and more, staffs work together in harmony and attempt to extend this harmony to working relations with parents and children. Points of disagreement or discord are settled not by authority, but by arbitration. Those concerned talk things over long enough and in situations relaxed enough to find solutions—or acceptable compromises.

Creativeness, therefore, becomes a functional matter, a pervasive quality of living, apparent in all we do and say.

Chapter VII

New Emphases and Developments

THAT TEACHING IS A DYNAMIC PROFESSION was reflected in the conferences as well as in school observations. Innovations are being introduced and local, State, and National educators as well as lay persons are watching these with keen interest to see what values they hold for teaching. Among innovations in the elementary schools, those for individualized reading, spelling, and arithmetic have already been described in this bulletin. Other innovations in the elementary school which will be discussed deal with the education of exceptional children at both ends of the scale, using television and teaching foreign languages.

Education of The More Able Children

Recent public interest in the education of children with above average ability did not catch school educators unawares. Teachers and school administrators have recognized the differences which exist among children, and part one, chapter II, of this study gives some indication of how well educators understand what they see in children. Within the last quarter century, various tests (for mental ability, achievement, aptitude, attitude, social adjustment) have come into wide use as means for verifying teacher judgment of children's abilities.

Commonly, in the belief that they acted in keeping with our democratic code, administrators have grouped children heterogeneously in classes. This does not mean that all have been given exactly the same work or taught alike; in most schoolrooms work and teaching have been differentiated according to the children's

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abilities along many different lines. The academically gifted have been required to explore more broadly and to do harder things, and the musically and artistically gifted have had special opportunities. Reports to parents have attempted to show them these differences.[1] Even the most cursory examination of courses of study over the last half century reveals some of the consistent and persistent attempts which have been made to educate *all* children to the best of their ability.

In the final stages of the present survey, efforts were made through interviews, correspondence, and observation to discover some of the ways in which the more able children are now being education. This section is a brief summary of the findings.

School people interviewed were insistent that special attention to the more able children is not new. "It is only the public interest that is new," they said. "Public interest has focused on other children to their benefit. Now it is shifting to these children. Probably some good will come of it. We may get the space and facilities we need!"

School people are fearful that:

In the excitement of the times, education of the more able, even in elementary schools, may depart from the broad pattern of a general education as basic to "the good life," and become too narrowly focused too early on too specific goals.

In the intensity of the search for "academically gifted," especially in science, society may appear to reject children with other "gifts" equally necessary in a well-balanced society. An example may be seen in the eager and worried query of a 6th grader recently: "It it true that when I grow up all the scholarships will be for scientists? I want to be an artist."

Under pressure from the outside, some educators may organize the schools in ways which may prove detrimental to the precepts of a democracy. This, they think, may have far-reaching effects. One educator, representing one of the largest States, recently said, "We educators must stand for the things which we've learned over the years make a good school in terms of child growth. We must be careful not to sell out to expediency."

Pressure may be exerted to advance children too rapidly rather than to broaden and enrich their lives.

Ways used at present to educate the more able children include:

Enrichment in regular classrooms
Modifications of the enrichment plan
Homogeneous grouping
Acceleration

[1] *Reporting Pupil Progress to Parents* (Education Briefs No. 34). Washington, U. S. Office of Education, 1956.

Enrichment in Regular Classrooms

Heterogeneous grouping, with education in the classrooms differentiated to meet the needs of individual differences among children, is by far the most used plan—in urban, suburban, and rural schools. Increasing care is taken, however, to make sure that the education *is* differentiated. In all academic areas, this calls not only for a capable classroom teacher but for materials varied to meet many levels of learning: Slow, average, and rapid. It calls, too, for materials which aid those who learn better from sensory activity with concrete materials: Wood, metal, textiles, clay, and the like. Differentation calls also for an abundance of materials which encourage musical and artistic children, as well as those with potentials to become writers, architects, social scientists, doctors, biologists, lawyers, teachers, or physicists, for example. It calls for *space* in which to live and work and do.

Many of the desirable materials are now available, notably in schools where commercial foundations are underwriting the expense for experimentation. Many schools, however, are short on both materials and space, some of them having to depend on makeshift housing and on children and their parents for materials.

The educational program in heterogeneous classrooms is mainly the responsibility of the classroom teachers, with help from principals, supervisors, and other specialists in the central school office who distribute their services among many schools. In conferences with the principal and other staff members, teachers plan the major curriculum experiences and indicate the help they and the children need. Unfortunately, many times the help they need most is not available: Adequate space, a full-day session, release from duties which do not pertain to teaching (to permit greater care in planning and teaching), parental and public understanding and support, psychological and health services, expert help from specialists in various areas, and materials. Yet the need for differentiation in school programs to meet the varying needs of individual children is recognized by teachers and good teachers do the best they can to help every child.

Some of the many activities which engage the more able children in heterogeneous classrooms are anticipated and planned. Many others, however, are nonpredictable and unplanned. Many also are similar to those carried out by other children but are performed at a *higher qualitative level.* For example:

Reading

Reading at their own pace, their own selections in books, magazines, newspapers and reference books belonging to the school or brought in from another school or community library or from home. (The teacher often groups the children, thus providing them with a challenge.)

Perfecting advanced skills, alone or in groups: Outlining, briefing, summarizing; using all sources available on a given topic or interest.

Teaming up with others to help them read better.

Arithmetic

Finding broad life applications of various mathematical principles: In homes, public buildings, cars, modern conveniences, industry.

Proving every step of a process: Estimating and trying out the estimates.

Conducting experiments and drawing out mathematical principles.

Demonstrating principles for the benefit of other children.

Working at advanced skills and appreciations in fractions, decimals, percentage, and simple algebra and geometry.

Working alone or in groups when ability offers a challenge.

Creative Writing

Writing longer, more complex, and better organized stories that find an appreciative and excited audience among classmates.

Writing verse that is deeply sensitive and insightful.

Writing plays to be read or produced.

Taking responsibility for a school or class newspaper, booklet, folio, or bulletin.

Discussions

Contributing what has been learned to the class, or to a group or committee.

Listening courteously to the opinions, information, insights, or questions which others offer.

Thinking with others to reach a good conclusion.

Making tape recordings for playback and analysis.

Spelling

Making and learning lists to replace or supplement the regular assignment.

Music

Studying instrumental work; taking part in a school orchestra or band.

Having special opportunities to sing for class or school programs.

Learning about composers and their work.

Helping others to appreciate music.

Locating and helping to select records for listening or for using as rhythms.

Teaching or demonstrating rhythms and dances.

Trying out creative rhythms.

Going voluntarily, when work is completed, to music center for practice.

Art

Utilizing, *at a higher qualitative level*, the opportunities provided for other children.

Reporting during school or out-of-school hours to an art center provided by the school district or community for further opportunities.

Going voluntarily, when work is completed, to art activities in the school.

Science

Taking the lead in experiments.

Doing more difficult experiments than others can do; explaining them to classmates.

Making scientific equipment for class needs or for a hobby.

Watching for the application of scientific principles in life: Plants, air, weather, travel, and space.

Working in small groups with other able children, so that challenge is provided in thinking and doing.

Taking special trips for interviews or observations and reporting to the class.

Reading books and magazines for scientific information.

Social Studies and Social Living

Reading far beyond others.

Preparing difficult reports; reporting in a way to be understood.

Entering into discussion; contributing and listening to it.

Thinking, but on a *higher qualitative level:* Noting problems, helping to solve them, recording mentally for future consideration.

Taking the lead in school-service work: Patrol, student councils, and the like.

Taking the lead in classroom or school clubs in any area, whose membership is voluntary.

Modifications of the Enrichment Plan

Some schools report certain modifications in the plan described above, chiefly setting aside some portion of the day, varying from 45 minutes to a half day, when all children or selected children of certain grades (4–6, 5–6, 5–8, or others) are redistributed for interest groups, clubs, or more specialized teaching. Modifications reported or observed follow:

Redistribution is made for one subject, usually according to levels of achievement. (See "Reading," p. 188.)

Redistribution is made for interest groups, usually in science, language arts, art, music, and mathematics; sometimes in woodwork, homemaking, and the like. The groups may break, for example, into smaller specialized

interest groups: Science into physical, biological, medical science; or birds, animals, plants, airplanes. "The more able children group themselves," was expressed in some schools. Other schools used some guidance to place able children where instructors thought they would benefit most.

A specialist in some area (popularly mathematics or science) is assigned to several schools. According to a schedule, selected children meet with him for a period each day or several times a week.

Interest groups are formed according to special abilities and willingness of staff members to assume responsibility. "More able children" are identified for these groups. They leave their classrooms to meet for 1 period 4 days a week. An extra teacher, assigned to the school, takes the place of the regular teacher so that the latter is released to meet with these children. Part-time consultation is available to this teacher from the central school office. Although a school may have several such groups under different teachers, most children belong to only one group.

The more able children in grades 1-3 and 4-6 are identified. They spend half of each day in their various regular classrooms; the other half-day they are grouped (1-3, 4-6) for special teaching with a designated teacher. Work designed for these "gifted" groups usually centers on social studies and the language arts, but is not narrowly restricted.

Children may go voluntarily when regular work is completed, to art, music, or literature centers.

Homogeneous grouping. Children are sorted, usually on the basis of academic ability shown by their scores on mental or achievement tests. They are then grouped for teaching:

All children within each grade of an entire school may be grouped in this way.

The more able children may be placed in a mixed- or grade-age group in a selected school.

The more able children may be collected from several schools and placed in grade groups which are adjunct to a regular school.

The more able children from several schools may be sent to a regional school which is reserved for able children only.

The purpose of homogeneous grouping varies. In may be to enrich opportunities by providing greater breadth and depth for studies and for expression; or to add a special feature, most frequently a foreign language; occasionally to speed up progress so that children may get through school earlier.

Classes are sometimes located in conjunction with a regular school for reasons of expediency or because administrators of the schools believe that it is important for "gifted" children to mingle with all types of children, so that mutual understanding may be advanced.

Acceleration. Only a few educators talk in terms of accelerating children. Apparently, the earlier experience of our schools has left its mark. "There is much to learn at any age," seems to be the attitude of educators in general. Even where children are moving upward in work, and where the question of "what the junior high school will do with these children" (who, for instance, have already done much of the next year's work in some subject)—even then there is little talk of "skipping a grade."

One school system which is making a controlled study of the relative values in the three plans—enrichment, homogeneous grouping, and acceleration—carries out the last in a most cautious way, using broad criteria to select children mature in every respect, and accelerating them gradually and only by 1 year.

Evaluative Experimentation. Some educational plans have been carried on over a long period of years; others, tried earlier and abandoned, are now on trial again. Evaluation of any plan is important. All three provisions for educating the "gifted" have both assets and liabilities. Each must be judged by its effects upon the knowledge, skills, habits, and attitudes of the children selected for the plan and in some cases upon the other children. *All* of our children will contribute to the future of our country, each in his own way and according to his perception of his own role in society. Education is individual.

Still other experiments are being made to find ways to improve the education of the more able children and of the mentally handicapped children, the crippled, and those defective in sight and hearing. Some of the experiments dealing with the more able children have been described in this bulletin; those dealing with other exceptional children[2] are described in certain Office of Education bulletins.

Teaching By Television

Probably no experiments have created so much excitement in recent years as those in teaching by television.[3] For the most part, the experiments are of two general types.

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[2] Office of Education Publications on Exceptional Children and Youth. Washington, U. S. Department of Health, Education, and Welfare.

[3] Dunham, Franklin, Lowdermilk, Ronald R. and Broderick, Gertrude. *Television in Education* (Bulletin 1957, No. 21). Washington, U. S. Government Printing Office. 124 p. 55 cents.

In one type, the television teacher does *direct teaching* of selected classes, each classroom teacher shaping the children's preparatory and followup work to fit the television programs. Ideally, the classroom teachers and the television teacher work cooperatively in planning the programs and children's related classroom activities. Among subjects taught by television in the experiments are foreign languages, arithmetic, science, social studies, reading, and spelling.

In the second type, television teaching is designed to supplement the classroom teachers' work, providing enrichment for the children. Programs of this sort are commonly in science, social studies, literature, and music. Utilization of these programs is sometimes required and sometimes optional with the teacher.

Teachers in the conferences recognized that television is an influential medium. Many mentioned that children discuss programs viewed out of school, often contributing content from these programs to classwork in school. Some of the teachers remarked that children's reading has increased as a result of new interests discovered through television, that teachers are helping children evaluate programs, and are assigning or encouraging homework related to television programs available during out-of-school hours.

Although it is not yet clear just how television can best be used in the elementary schools, teachers are confident that it will be valuable to *supplement teaching*. Questions raised were related to:

- the best functions of television programs
- the availability of programs at the proper time
- the relative value of TV films and other films and slides
- the relative effectiveness of various types of programs

Concerning *direct teaching* to selected classrooms, teachers were not so clear as to the purpose or the benefits. "Do children learn more than we can teach them?" they asked. "Is it meant to improve our teaching?" "Is it meant to teach areas in which many teachers are weak, such as foreign languages or certain aspects of science?" In that case, they agreed, it really *supplements* teaching.

The chief concerns about using television to teach large groups of children are related to the impersonal teacher-child relations this method imposes. "This kind of school is different from any that we've ever thought about," said many. "It seems to assume

that all children in an audience are or should be studying the same thing at the same time. This needs careful evaluation to to see whether the outcomes for children are those our country cherishes. Children may learn subject matter effectively this way, but are other values sacrificed?"

An openminded, yet critical, attitude characterized all discussions in this area.

Foreign Language Teaching

Realizing the lack of familarity with foreign languages among our people, educators are watching with interest experiments to begin teaching them at the elementary school level. Many elementary schools are attempting to create interest in foreign languages by the use of recordings, songs, visits at school of persons from abroad and those in the local community who speak a foreign language, and other available means. Frequently these activities are part of the social studies program.

Some elementary schools are making serious efforts to teach foreign languages. Efforts seem most successful in areas where the second language is a factor in the social environment, as in the southwest, where Spanish is spoken commonly, where Spanish culture abounds to support the language, where good teachers of Spanish are not difficult to find, and where there is opportunity to practice the language outside school. There are similar areas also where French is spoken and taught, and occasional ones where this is true of German, Italian, and other languages.[4]

Some Other Experiments

In process also are experiments which affect school organization and administration. Among the most important are those attempting to devise means for relieving teachers of many of the nonteaching responsibilities they now carry so that more of their

[4] Thompson, Elizabeth Engle and Hamalainen, Arthur E. *Foreign Language Teaching in Elementary Schools.* Washington, Association for Supervision and Curriculum Development, N. E. A., 1958. 46 p.

time may be devoted to teaching. Others seek to make it possible for teachers to visit other schools or to help them adapt new methods of teaching within their own teaching environments. In some cases, a "floating" or extra teacher is added to the staff to serve as substitute; in others, "helping teachers" who are successful classroom teachers are removed from their classrooms for a year or two to assist teachers who wish to try out new methods.

Evaluation Of New Developments

Evaluation of any innovation must take into account what the process holds for meeting the goals of education in our country, how it shapes up in relation to what is known about growth and learning at the age level for which it is used, and whether it is practical within the social milieu where it is being used. The feeling was strong among educators who participated in this study that evaluation must not be limited to easily measurable aspects shown by test scores, but rather broadened to include all aspects of development which the experiment directly or indirectly affects.

Chapter VIII

School and Community Work Together

PARTICIPANTS IN THE FORTY CONFERENCES expressed their conviction that, more than ever before, the cooperation of home, school, and community is essential to the good development of children. Previous chapters in this bulletin report the deep understanding and respect that educators in the study have for the daily influence of family life on children in all areas of their growth. They feel, too, that the *total* community is responsible for *all* its children, since learning opportunities, good or bad, are provided within the framework of the community by in-school and out-of-school situations, over many of which the home and the school have little control. It was felt also that changes today, rapid and in many ways unpredictable, make it difficult to guide children.

With the modern trend toward urban and suburban living, with little opportunity for boys and girls to work at home and in the community, with technological, scientific, and cultural developments affecting adults and children alike, and with increased pressures upon children to make both social and intellectual achievements, the problems and expectations of today's young people are indeed different from, and infinitely more complex than, those of the young of any previous generation in the life of this country.

In the American way of life, the school is one of the institutions organized by the community with a role to play in the development of its children. The schools cannot, nor do they want to, escape the responsibility for helping children meet changes in society. Willing though they may be, however, to help guide children, school people cannot assume total responsibility for seeing clearly the *directions* that changes are taking, and the *significance* of the changes, nor for seeing how *the schools* can best expend their

Public Schools, Ontario, Calif.

Parents and school people work together for a better school.

efforts to help children be ready to meet situations whose outlines are not too clear. Conferees believed that school leaders and parents have a mutual obligation to reach an understanding about the role of their schools and to help the schools define and meet their particular responsibilities toward children.

Some communities have long recognized the need for home-school-community cooperation and have effective ways of securing it in the realm of shared responsibilities for the rearing of children. Many others, gaining impetus from the White House Conference [1] or from the leadership of such organizations as the National Citizens Council for Better Schools [2], and the National Congress of Parents and Teachers,[3] or from the initiative of local leaders have taken steps in this direction. City, county, or neighborhood councils are sometimes organized, made up of representatives from some or all of the youth-serving agencies, to study and keep in touch with existing and emerging problems. Committees

[1] *Report to the President*, by the Committee for The White House Conference on Education. Washington, U. S. Government Printing Office, April 1956. 126 p.

[2] Henry Toy, President, National Citizens Council for Better Schools, 9 East 40th Street, New York 16.

[3] Mrs. Ethel Brown, National Congress of Parents and Teachers, 700 North Rush Street, Chicago 11.

within these councils concentrate on problems affecting education.

Examples of cooperative undertakings by the council committees are:

efforts to predict and plan for community growth, with special attention to the needs of children.

survey of opportunities provided for children, (school, recreational, and other), and of ways to extend them to include *all* children.

study of educational needs in the present—and predicted—community and devising ways to present information to the public.

identifying the precise and the shared responsibilities of home, school, and other community units in relation to specific problems, and ways to communicate and cooperate.

study of what constitutes a good school program in all of its facets, and of how it can be achieved and maintained.

study of how the adult resources in the community can help the school carry out a good program.

Because of such work as described above, children in many communities have benefited by having an ample supply of qualified teachers, better instruction, and more opportunities to engage in constructive activities in and out of school.

Many individual schools, owing usually to the leadership of the principals, reap the benefits of good parent-school-neighborhood relations. Feeling that they are welcome, parents visit the school freely, assist at points where they can help, and keep in touch with teachers as to the progress of their own children. Through social events and cooperative efforts to help the school, staff and parents develop better mutual understanding.

Chapter IX

Summary and Evaluation

THE STATEMENTS FREQUENTLY HEARD that there is insufficient research in the age levels of 9–11 seem well grounded. The greatest need, no doubt, is for carefully documented longitudinal studies on all aspects of child development. These studies, preferably of children from all the various socio-economic levels and cultural and geographic groups of our society, should, of course, cover ages 9–11. Until long-range studies become available, careful short-range ones which show implications for better development of children could make substantial contributions.

What Research Shows

There are, however, considerable data about growth and learning on which educational programs can be based. Research and observations have not overlooked the wide dissimilarities among human beings in every respect: Rate of growth, style of growth (outgoing, introvertive, penetrating, superficial, and other), and ultimate possibilities of achievement. Studies already made and pointed out in part one of this bulletin, as well as other studies now in process, have contributed some information also about (1) similarities in growth, particularly as to conditions which foster the development of physically capable, disease-resisting bodies, emotional well-being, and stability; (2) the intricately interwoven relationship that social acceptability among peers and adults and mental health seem to have in child rearing in our culture; (3) the tremendous drive to know, to do, to become independent, and

to establish and maintain an "ego", which underlies the mental strides that children of these ages make in any areas of knowledge and of skill which catch and hold their interest.

Psychology and sociology particularly have helped us gain some insight into the mental processes of *how* people learn and *what* they learn and into the feelings or emotions that play a part in both the *how* and the *what* of learning. Psychology and sociology have also helped us see the parts of the world (the "life space") which have significance for young people, who of necessity are dependent upon adults for their very survival, as well as for their happiness.

Part one, chapter III, has reported some of the ways in which research workers and educators have attempted to throw light upon the interrelationships of thought and feelings of children of 9–10–11, and their drive to grow up as increasingly independent persons within the restraints, restrictions, liberties, and expectations which characterize the culture patterns of our society.

Using What Is Known About Children

Part two of this study reports the methods that some schools are using to educate children and to make the school an integral part of the community. This study may be far too limited to justify generalizations. Observations made in schools and insights gained in conferences do lead, however, to the impression that, within the facilities provided for educating the nearly 8 million children[1] in grades 4, 5, and 6, and taking into account the great variation in the children's abilities, backgrounds, and aspirations, these grades are exerting effort and meeting with considerable success in challenging children to achieve their potentialities.

A look at some key questions, such as the following, might help community leaders to examine local situations in the light of what is known about child rearing and the education of children in and for our society.

1. Is your local school a good place for the child to spend a large portion of his daylight hours studying, working, playing?

[1] Forthcoming *Biennial Survey of Education in the United States 1954–56*, ch. 2. Washington, U. S. Government Printing Office, 1958.

For physical development and activity?

Does the *space* provide for full-day attendance of all children? for needed activities indoors and outdoors?

Does the *physical environment* (sanitation, lighting, ventilation, and acoustics) exemplify the best that is known?

Do the furnishings accommodate active, creative living as well as concentrated, individual study?

Do *all* children have access to necessary *health* services to insure the best physical development?

Are the equipment and furniture of a simple and sturdy nature that meets a child's needs for work and play; are outmoded or inadequate furnishings scheduled to go at a definite time?

Are places of work (classrooms, libraries, laboratories) inviting to children and well equipped for the work intended?

For social and emotional development?

Does *the school* organization help develop friendship for *all* children?

Do classroom activities also do this?

Does the program help children grow in self-understanding, self-guidance, and identification of their personal share of responsibility for making the environment good for all?

Does school organization encourage recognition and respect for the the worth of each individual?

Are children with problems identified and helped to overcome their problems or to live with them?

Are conditions sufficiently permissive, yet sufficiently demanding, to permit children to work out their interests, emotions, and problems, yet to feel the security of known boundaries?

Are sources sufficiently available, readily and continuously, to be of help to children who are in serious need of help?

For intellectual development?

Does the school program encouraged by the administrators, the supervisors, and particularly the principal and teachers make room for the intellectual development of *all* types of children?

Does the environment encourage this by providing:

easy access to differentiated instructional materials in all well-established areas of curriculum?

resources which support or go beyond the established curriculum, providing for enrichment, stimulation of interests, nurture of curiosity and adventure, and more mature habits of work and study?

resources which make it possible for all types of learners to learn: Books, trips, manipulative materials, visual-auditory aids, expressional materials, and others which lend concreteness and reality?

Do the teachers encourage differentiation in achievement among the children according to interests, abilities, and needs?

Does the teacher's program provide for differentiation among the children according to:

interests, abilities, and needs

rate of growth in the following skills and abilities necessary in our culture:

reading
handwriting
spelling
functional communication, oral and written
health habits
body skills

Does the program provide for observation and application of learning to daily life:

characteristics of our democracy
qualitative aspects of the environment: Mathematics and the numbering and measuring systems
scientific principles in relation to physical and natural phenomena

Does the program help children grow in understanding of:

the United States as a nation?
the relation of the United States to the rest of the world?
the likenesses and differences among peoples of the world?
the ways of life in other countries; the achievements and problems of other countries?
current happenings, their implications and causes?
their own role, as individuals or as members of groups, in developing and maintaining a good home, community, nation, and world?

Does the program consistently help the children recognize and deal with problematic situations fairly—encourage the search for truth, require justification for opinions and conclusions—in short, does the program help develop intelligence?

Do the children have opportunity to develop skills necessary for independent study of the world: Using books, libraries, maps, globes, pictures, audio-visual aids of all kinds; listening, observing, interviewing, discussing, reporting?

Do the children have opportunity in school to learn to use home and community resources wisely to further their own ability to be selective: Reading materials, radio, television, movies, playgrounds, recreation centers, and other resources?

Do the children have opportunity to help plan their own lives in relation to school and out-of-school living, so that they may learn to reconcile available time and personal energy with their various responsibilities and aspirations?

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2. Does the school administration encourage creative teaching and learning?

Is the creative element of learning encouraged in teachers and students through exploration, experimentation, and a questioning, seeking, and challenging attitude in all lines of endeavor?

Are there frank and productive staff conferences on matters of importance to teachers?

Do staff relationships bring about approval of creative approaches?

Are there opportunities for teachers to become acquainted with new subject matter and new ways of teaching?

Are there opportunities for teachers to grow culturally and professionally?

3. Do parent-school-community relations contribute to a good school?

Do programs of cooperation concentrate on bringing better understanding of children's needs?

Are parents encouraged to visit the school to see their child at work and play, to confer with the teacher and principal about the child's welfare and education?

Does the system of reporting to parents on the school progress of their children foster the children's best development?

Are steps being taken to clarify cooperatively the role of the school and the role of the teacher in childlife?

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Appendix

Some Things Which Give Concern to Educators

MANY OF THE CONCERNS of administrators, supervisors, and teachers are related to the environment of teaching—not so much that elements in the environment contribute to teacher discomfort, but rather that they hamper the effectiveness of teaching and learning. Translated into desires, the concerns of the educators in this study were for:

enough space, indoors and outdoors, to permit children to attend school on full-day schedules and to facilitate individual and group activities essential to good education.

classes small enough so that a teacher may know every child well and may keep in close touch with parents concerning their mutual guidance of the child.

materials adaptable to the range of individual differences in all lines of development, especially for children of high and low abilities.

cooperative and understanding relations among staff members and with parents and the public, which will give teachers security as they attempt to do their best work with the children.

consultative help in areas where the teacher's own background may be inadequate, such as conducting profitable teacher-child and parent-teacher conferences, meeting the needs of children with emotional problems, or improving teaching in specific areas.

services, particularly medical and psychological, to supplement the teacher's own guidance work.

relief from non-teaching duties so that full time may be devoted to teaching.

A characteristic of the educators in this study was their interest in the child's *total* well-being. Many situations in modern life work against a productive childlife even when the child is in school. Real concern was expressed:

that school, home, and community plan cooperatively to insure every child the care and opportunities for good growth which he needs, each of the three assuming its appropriately defined share of responsibility for:

health, energy, and well-being
moral and spiritual guidance and stability
social learning
academic learning
work and recreational habits and interests

Other concerns, particularly those of administrators and supervisors, dealt with:

how to procure and retain a sufficient number of professionally qualified teachers.

how to help themselves and the teachers to increase their skills, keep up with educational progress, and evaluate what is good for the children in their schools.

List of Conferences Held

Meeting place		
State	*City*	*Other states represented*
Alabama	Montgomery.	
Arizona	Phoenix.	
	Tucson.	
California	Los Angeles.	
	Modesto.	
	San Diego.	
	San Francisco.	
Colorado	Denver.	
District of Columbia	Washington	Maryland, Virginia.
Florida	Daytona Beach.	
Georgia	Augusta	South Carolina.
Idaho	Boise.	
Illinois	Chicago	Indiana, Wisconsin.
	Joliet.	
Indiana	Indianapolis.	
Iowa	Des Moines.	
Kansas	Topeka.	
Louisiana	Baton Rouge.	
Maine	Portland	New Hampshire.
Massachusetts	Boston.	
Mississippi	Jackson.	

Meeting place		
State	City	Other states represented
Montana	Glendive.	
	Helena.	
Nebraska	Lincoln.	
New Mexico	Albuquerque.	
New York	Albany.	
	Huntington, Long Island.	
North Carolina	Raleigh.	
Ohio	Columbus.	
Oregon	Eugene	
Pennsylvania	Pittsburgh.	
South Dakota	Huron.	
	Rapid City.	
Tennessee	Memphis	Arkansas.
Texas	Fort Worth.	
Utah	Salt Lake City.	
Vermont	Montpelier.	
Washington	Pasco.	
	Everett.	
Wyoming	Torrington	Nebraska.

List of School Systems Visited

State	School System
Alabama	Birmingham.
	Montgomery County.
Arizona	Phoenix.
	Tucson.
California	Oakland.
	Palo Alto.
	San Francisco.
	San Mateo.
District of Columbia	Washington.
Florida	Duval County.
Georgia	Richmond.
Idaho	Boise.
	Boise County.

State	*School System*
Illinois	Chicago.
	Woodstock.
	Will County.
	McHenry County (District No. 10).
Indiana	Kokomo County.
Iowa	Ames.
Kansas	Kansas City.
	Salina County.
Kentucky	Fayette County.
	Harlan County.
Maryland	Baltimore.
	Hagerstown.
Massachusetts	Concord.
	Lexington.
	Winchester.
Michigan	Detroit.
	Pontiac.
	Ann Arbor.
Minnesota	Minneapolis.
Mississippi	Copiah County.
	Rankin County.
Missouri	St. Louis.
Montana	Billings.
	Glendive.
	Helena.
Nebraska	Lincoln.
	Scottsbluff.
New Hampshire	Keene.
New Jersey	Gloucester County.
New Mexico	Albuquerque.
New York	Delmar.
	Huntington, Long Island.
	New York City.
	Slingerlands.

State	School System
Nevada	Las Vegas.
North Dakota	Bismarck.
	Fargo.
Ohio	Columbus.
	Licking County.
Oregon	Eugene.
	Hillsboro.
	Portland.
Pennsylvania	Cumberland Valley.
	Lower Paxton Township.
	Philadelphia.
	Pittsburgh.
Rhode Island	Providence.
	Warwick.
South Dakota	Lake County.
	Rapid City.
	Sioux Falls.
Texas	Arlington.
Utah	Granite School District.
Virginia	Richmond.
Wisconsin	Milwaukee.
Wyoming	Cheyenne.
	Converse County.
	Niobrara County.

Upon request, the Office of Education will send the following publication lists:

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