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Seen throughout all the goals of education (the development of individuality, self-realization, human relationships, economic efficiency, and civic responsibility), the central purpose of education today is the development of rational powers to create the freedom of mind necessary for dealing with traditional tasks as well as with recent changes. However, research into the psychology of thinking (the processes of inference, knowledge and skill transference, and high-level abstraction ability) is needed, and the results of such research should be applied in a school maintaining conditions which foster the development of physical and mental health, human individuality, and the abilities of the handicapped and disadvantaged. Subject matter courses should be relevant to the student and should provide him with instruction and practice in using his rational abilities and in developing an inquiring spirit and a respect for knowledge. (SM)

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The Central Purpose of American Education

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FOREWORD

A crucial issue in this document is the meaning and use of the word *central*. Does a *central* purpose mean an *exclusive* purpose? Does its use imply a rigid hierarchy of purposes, with the development of the rational powers of man always at the pinnacle?

We do not so interpret *central* purpose. We use the term not to mark other educational purposes as subordinate but rather to convey the idea that it is the thinking person who can bring all valid purposes into an integrated whole. Rationality is a means as well as an end.

Education must be interfused with the process of thinking and the attitude of thoughtfulness. Our commitment, therefore, is not to a narrow and exclusive intellectualism but rather to a program of education which is suffused with creativeness and innovation.

We most emphatically reject the idea that a few should be educated and that the majority should be trained. We say, on the contrary, that all have latent, unrealized powers of creativity. Our emphasis on thinking as a central outcome of education stresses the pervasiveness of rationality in all the purposes of education.

The recommendations in this publication are those of the Educational Policies Commission, a commission of the National Education Association of the United States and the American Association of School Administrators. Publication in this form does not constitute formal approval by the sponsoring associations.

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PART I

EDUCATION IN THE AMERICAN SOCIETY

IN ANY democracy education is closely bound to the wishes of the people, but the strength of this bond in America has been unique. The American people have traditionally regarded education as a means for improving themselves and their society. Whenever an objective has been judged desirable for the individual or the society, it has tended to be accepted as a valid concern of the school. The American commitment to the free society—to individual dignity, to personal liberty, to equality of opportunity—has set the frame in which the American school grew. The basic American value, respect for the individual, has led to one of the major charges which the American people have placed on their schools: to foster that development of individual capacities which will enable each human being to become the best person he is capable of becoming.

The schools have been designed also to serve society's needs. The political order depends on responsible participation of individual citizens; hence the schools have been concerned with good citizenship. The economic order depends on ability and willingness to work; hence the schools have taught vocational skills. The general morality depends on choices made by individuals; hence the schools have cultivated moral habits and upright character.

Educational authorities have tended to share and support these broad concepts of educational purposes. Two of the best-known definitions of purposes were formulated by educators in 1918 and 1938. The first definition, by the Commission on the Reorganization of Secondary Education, proposed for the school a set of seven cardinal objectives: health, command of fundamental processes, worthy home membership, vocational competence, effective citizenship, worthy use of leisure, and ethical character. The second definition, by the Educational Policies Commission, developed a number of objectives under four headings: self-realization, human relationship, economic efficiency, and civic responsibility.

The American school must be concerned with all these objectives if it is to serve all of American life. That these are desirable objectives is clear. Yet they place before the school a problem of immense scope, for neither the schools nor the pupils have the time or energy to engage in all the activities which will fully achieve all these goals. Choices among possible activities are inevitable and are constantly being made in and for every school. But there is no consensus regarding a basis for making these choices. The need, therefore, is for a principle which will enable the school to identify its necessary and appropriate contributions to individual development and the needs of society.

Furthermore, education does not cease when the pupil leaves the school. No school fully achieves any pupil's goals in the relatively short time he spends in the classroom. The school seeks rather to equip the pupil to achieve them for himself. Thus the search for a definition of the school's necessary contribution entails an understanding of the ways individuals and societies choose and achieve their goals. Because the school must serve both individuals and the society at large in achieving their goals, and because the principal goal of the American society remains freedom, the requirements of freedom set the frame within which the school can discover the central focus of its own efforts.

FREEDOM OF THE MIND

The freedom which exalts the individual, and by which the worth of the society is judged, has many dimensions. It means freedom from undue governmental restraints; it means equality in political participation. It means the right to earn and own property and decide its disposition. It means equal access to just processes of law. It means the right to worship according to one's conscience.

Institutional safeguards are a necessary condition for freedom. They are not, however, sufficient to make men free. Freedom requires that citizens act responsibly in all ways. It cannot be preserved in a society whose citizens do not value freedom. Thus belief in freedom is essential to maintenance of freedom. The basis of this belief cannot be laid by mere indoctrination in principles of freedom. The ability to recite the values of a free society does not guarantee commitment to those values. Active belief in those values depends on awareness of them and of their role in life. The person who best supports these values is one who has examined them, who understands their function in his life and in the society at large, and who accepts them as worthy of his own support. For such a person these values are consciously held and consciously approved.

The conditions necessary for freedom include the social institutions which protect freedom and the personal commitment which gives it force. Both of these conditions rest on one condition within the individuals who compose a free society. This is freedom of the mind.

Freedom of the mind is a condition which each individual must develop for himself. In this sense, no man is born free. A free society has the obligation to create circumstances in which all individuals may have opportunity and encouragement to attain freedom of the mind. If this goal is to be achieved, its requirements must be specified.

To be free, a man must be capable of basing his choices and actions on understandings which he himself achieves and on values which he examines for himself. He must be aware of the bases on which he accepts propositions as true. He must understand the values by which he lives, the assumptions on which they rest, and the consequences to which they lead. He must recognize that others may have different values. He must be capable of analyzing the situation in which he finds himself and of developing solutions to the problems before him. He must be able to perceive and understand the events of his life and time and the forces that influence and shape those events. He must recognize and accept the practical limitations which time and circumstance place on his choices. The free man, in short, has a rational grasp of himself, his surroundings, and the relation between them.

He has the freedom to think and choose, and that freedom must have its roots in conditions both within and around the individual. Society's dual role is to guarantee the necessary environment and to develop the necessary individual strength. That individual strength springs from a thinking, aware mind, a mind that possesses the capacity to achieve aesthetic sensitivity and moral responsibility, an enlightened mind. These qualities occur in a wide diversity of patterns in different individuals. It is the contention of this essay that central to all of them, nurturing them and being nurtured by them, are the rational powers of man.

THE CENTRAL ROLE OF THE RATIONAL POWERS

The cultivated powers of the free mind have always been basic in achieving freedom. The powers of the free mind are many. In addition to the rational powers, there are those which relate to the aesthetic, the moral, and the religious. There is a unique, central role for the rational powers of an individual, however, for upon them depends his ability to achieve his personal goals and to fulfill his obligations to society.

These powers involve the processes of recalling and imagining, classifying and generalizing, comparing and evaluating, analyzing and synthesizing, and deducing and inferring. These processes enable one to apply logic and the available evidence to his ideas, attitudes, and actions, and to pursue better whatever goals he may have.

This is not to say that the rational powers are all of life or all of the mind, but they are the essence of the ability to think. A thinking person is aware that all persons, himself included, are both rational and nonrational, that each person perceives events through the screen of his own personality, and that he must take account of his personality in evaluating his perceptions. The rational processes, moreover, make intelligent choices possible. Through them a person can become aware of the bases of choice in his values and of the circumstances of choice in his environment. Thus they are broadly applicable in life, and they provide a solid basis for competence in all the areas with which the school has traditionally been concerned.

The traditionally accepted obligation of the school to teach the *fundamental processes*—an obligation stressed in the 1918 and 1938 statements of educational purposes—is obviously directed toward the development of the ability to think. Each of the school's other traditional objectives can be better achieved as pupils develop this ability and learn to apply it to all the problems that face them.

Health, for example, depends upon a reasoned awareness of the value of mental and physical fitness and of the means by which it may be developed and maintained. Fitness is not merely a function of living and acting; it requires that the individual understand the connection among health, nutrition, activity, and environment, and that he take action to improve his mental and physical condition.

Worthy home membership in the modern age demands substantial knowledge of the role that the home and community play

in human development. The person who understands the bases of his own judgments recognizes the home as the source from which most individuals develop most of the standards and values they apply in their lives. He is intelligently aware of the role of emotion in his own life and in the lives of others. His knowledge of the importance of the home environment in the formation of personality enables him to make reasoned judgments about his domestic behavior.

More than ever before, and for an ever-increasing proportion of the population, *vocational competence* requires developed rational capacities. The march of technology and science in the modern society progressively eliminates the positions open to low-level talents. The man able to use only his hands is at a growing disadvantage as compared with the man who can also use his head. Today even the simplest use of hands is coming to require the simultaneous employment of the mind.

Effective citizenship is impossible without the ability to think. The good citizen, the one who contributes effectively and responsibly to the management of the public business in a free society, can fill his role only if he is aware of the values of his society. Moreover, the course of events in modern life is such that many of the factors which influence an individual's civic life are increasingly remote from him. His own firsthand experience is no longer an adequate basis for judgment. He must have in addition the intellectual means to study events, to relate his values to them, and to make wise decisions as to his own actions. He must also be skilled in the processes of communication and must understand both the potentialities and the limitations of communication among individuals and groups.

The *worthy use of leisure* is related to the individual's knowledge, understanding, and capacity to choose, from among all the activities to which his time can be devoted, those which contribute to the achievement of his purposes and to the satisfaction of his

needs. On these bases, the individual can become aware of the external pressures which compete for his attention, moderate the influence of these pressures, and make wise choices for himself. His recreation, ranging from hobbies to sports to intellectual activity pursued for its own sake, can conform to his own concepts of constructive use of time.

The development of *ethical character* depends upon commitment to values; it depends also upon the ability to reason sensitively and responsibly with respect to those values in specific situations. Character is misunderstood if thought of as mere conformity to standards imposed by external authority. In a free society, ethics, morality, and character have meaning to the extent that they represent affirmative, thoughtful choices by individuals. The ability to make these choices depends on awareness of values and of their role in life. The home and the church begin to shape the child's values long before he goes to school. And a person who grows up in the American society inevitably acquires many values from his daily pattern of living. American children at the age of six, for example, usually have a firm commitment to the concept of fair play. This is a value which relates directly to such broad democratic concepts as justice and human worth and dignity. But the extension of this commitment to these broader democratic values will not occur unless the child becomes aware of its implications for his own behavior, and this awareness demands the ability to think.

A person who understands and appreciates his own values is most likely to act on them. He learns that his values are of great moment for himself, and he can look objectively and sympathetically at the values held by others. Thus, by critical thinking, he can deepen his respect for the importance of values and strengthen his sense of responsibility.

The man who seeks to understand himself understands also that other human beings have much in common with him. His

understanding of the possibilities which exist within a human being strengthens his concept of the respect due every man. He recognizes the web which relates him to other men and perceives the necessity for responsible behavior. The person whose rational powers are not well developed can, at best, learn habitual responses and ways of conforming which may insure that he is not a detriment to his society. But, lacking the insight that he might have achieved, his capacity to contribute will inevitably be less than it might have become.

Development of the ability to reason can lead also to dedication to the values which inhere in rationality: commitment to honesty, accuracy, and personal reliability; respect for the intellect and for the intellectual life; devotion to the expansion of knowledge. A man who thinks can understand the importance of this ability. He is likely to value the rational potentials of mankind as essential to a worthy life.

Thus the rational powers are central to all the other qualities of the human spirit. These powers flourish in a humane and morally responsible context and contribute to the entire personality. The rational powers are to the entire human spirit as the hub is to the wheel.

These powers are indispensable to a full and worthy life. The person in whom—for whatever reason—they are not well developed is increasingly handicapped in modern society. He may be able to satisfy minimal social standards, but he will inevitably lack his full measure of dignity because his incapacity limits his stature to less than he might otherwise attain. Only to the extent that an individual can realize his potentials, especially the development of his ability to think, can he fully achieve for himself the dignity that goes with freedom.

A person with developed rational powers has the means to be aware of all facets of his existence. In this sense he can live to the fullest. He can escape captivity to his emotions and irra-

tional states. He can enrich his emotional life and direct it toward ever higher standards of taste and enjoyment. He can enjoy the political and economic freedoms of the democratic society. He can free himself from the bondage of ignorance and unawareness. He can make of himself a free man.

THE CHANGES IN MAN'S UNDERSTANDING AND POWER

The foregoing analysis of human freedom and review of the central role of the rational powers in enabling a person to achieve his own goals demonstrate the critical importance of developing those powers. Their importance is also demonstrated by an analysis of the great changes in the world.

Many profound changes are occurring in the world today, but there is a fundamental force contributing to all of them. That force is the expanding role accorded in modern life to the rational powers of man. By using these powers to increase his knowledge, man is attempting to solve the riddles of life, space, and time which have long intrigued him. By using these powers to develop sources of new energy and means of communication, he is moving into interplanetary space. By using these powers to make a smaller world and larger weapons, he is creating new needs for international organization and understanding. By using these powers to alleviate disease and poverty, he is lowering death rates and expanding populations. By using these powers to create and use a new technology, he is achieving undreamed affluence, so that in some societies distribution has become a greater problem than production.

While man is using the powers of his mind to solve old riddles, he is creating new ones. Basic assumptions upon which mankind has long operated are being challenged or demolished. The age-old resignation to poverty and inferior status for the masses of humanity is being replaced by a drive for a life of dignity for all. Yet, just as man achieves a higher hope for all mankind, he sees also

the opening of a grim age in which expansion of the power to create is matched by a perhaps greater enlargement of the power to destroy.

As man sees his power expand, he is coming to realize that the common sense which he accumulates from his own experience is not a sufficient guide to the understanding of the events in his own life or of the nature of the physical world. And, with combined uneasiness and exultation, he senses that his whole way of looking at life may be challenged in a time when men are returning from space.

Through the ages, man has accepted many kinds of propositions as truth, or at least as bases sufficient for action. Some propositions have been accepted on grounds of superstition; some on grounds of decree, dogma, or custom; some on humanistic, aesthetic, or religious grounds; some on common sense. Today, the role of knowledge derived from rational inquiry is growing. For this there are several reasons.

In the first place, knowledge so derived has proved to be man's most efficient weapon for achieving power over his environment. It prevails because it works.

More than effectiveness, however, is involved. There is high credibility in a proposition which can be arrived at or tested by persons other than those who advance it. Modesty, too, is inherent in rational inquiry, for it is an attempt to free explanations of phenomena and events from subjective preference and human authority, and to subject such explanations to validation through experience. Einstein's concept of the curvature of space cannot be demonstrated to the naked eye and may offend common sense; but persons who cannot apply the mathematics necessary to comprehend the concept can still accept it. They do this, not on Einstein's authority, but on their awareness that he used rational methods to achieve it and that those who possess the ability and facilities have tested its rational consistency and empirical validity.

In recent decades, man has greatly accelerated his systematic efforts to gain insight through rational inquiry. In the physical and biological sciences and in mathematics, where he has most successfully applied these methods, he has in a short time accumulated a vast fund of knowledge so reliable as to give him power he has never before had to understand, to predict, and to act. That is why attempts are constantly being made to apply these methods to additional areas of learning and human behavior.

The rapid increase in man's ability to understand and change the world and himself has resulted from increased application of his powers of thought. These powers have proved to be his most potent resource, and, as such, the likely key to his future.

THE CENTRAL PURPOSE OF THE SCHOOL

The rational powers of the human mind have always been basic in establishing and preserving freedom. In furthering personal and social effectiveness they are becoming more important than ever. They are central to individual dignity, human progress, and national survival.

The individual with developed rational powers can share deeply in the freedoms his society offers and can contribute most to the preservation of those freedoms. At the same time, he will have the best chance of understanding and contributing to the great events of his time. And the society which best develops the rational potentials of its people, along with their intuitive and aesthetic capabilities, will have the best chance of flourishing in the future. To help every person develop those powers is therefore a profoundly important objective and one which increases in importance with the passage of time. By pursuing this objective, the school can enhance spiritual and aesthetic values and the other cardinal purposes which it has traditionally served and must continue to serve.

The purpose which runs through and strengthens all other educational purposes—the common thread of education—is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world. To say that it is central is not to say that it is the sole purpose or in all circumstances the most important purpose, but that it must be a pervasive concern in the work of the school. Many agencies contribute to achieving educational objectives, but this particular objective will not be generally attained unless the school focuses on it. In this context, therefore, the development of every student's rational powers must be recognized as centrally important.

PART II

ACHIEVING THE CENTRAL PURPOSE

It is no easy matter to adapt school programs to this central purpose. To make an enduring change in a mind which has already had some years of experience is among the most complex of all human enterprises. Although the school's obligation to develop the ability to think is widely accepted, there is much uncertainty as to the procedures most likely to achieve that objective. There is a great need to learn more than is now known about how men think, what rationality and creativity are, how they can be strengthened, and how the opportunities of the school can best be employed to develop whatever rational potential a child may have.

THE NEED FOR FURTHER RESEARCH

Development of rational powers is unfortunately an area of relative neglect in research. The emphasis of recent research has been on the conditions under which learning occurs and on the pathological aspects of learning in specific situations. The psychology of thinking itself is not well understood. The process of inference, for example, can be described as a leap from a given body of data to a conclusion suggested but not guaranteed by the data, and therefore in need of validation. Although the logic of this process may be thus stated, its psychology remains little known. Consider-

able research would need to be done before one could, with reasonable assurance, design a program of study that would develop the ability to make valid inferences.

Research by Thorndike, Woodworth, Cattell, James, and others disproved early theories of faculty psychology and mental discipline. But these psychologists did not fully develop a theory on the processes by which knowledge and skills are transferred to new situations and reorganized in new generalizations. Yet such transfer and reorganization obviously occur.

Another gap in research on learning relates to apparent inability, or very low ability, to deal with high-level abstractions. Some pupils appear to lack potential for significant development of the rational powers. Yet, except perhaps in cases of physical damage to the brain, the reasons for this apparent lack are not understood. Psychological studies increasingly reveal unsuspected potential for growth in the development of human beings. Abilities sometimes appear to vary with environment. What is needed is an understanding of the influence of early environment on the susceptibility of the rational powers to development. Ways might then be found to overcome the effects of inadequate early environment.

There is no known upper limit to human ability, and much of what people are capable of doing with their minds is probably unknown today. In this sense, it can hardly be said that any person has ever done the best he can. Research might make possible for all people constantly higher levels of aspiration and attainment.

Thus, in the general area of the development of the ability to think, there is a field for new research of the greatest importance. It is essential that those who have responsibility for management and policy determination in education commit themselves to expansion of such research and to the application of the fruits of this research. This is the context in which the significant answers to such issues as educational technology, length of school year, and content of teacher education must be sought and given. A new

emphasis on this field by educational research may be expected to yield great dividends to the individual citizen and to the nation as a whole. And it would endow with greater substance America's belief in freedom and equal opportunity.

PREREQUISITES OF RATIONALITY

The school must be guided, in pursuing its central purpose or any other purposes, by certain conditions which are known to be basic to significant mental development. The school has responsibility to establish and maintain these conditions.

One of them is physical health. The sick or poorly nourished pupil, the pupil suffering from poor hearing or vision, is hampered in learning. An adequate physical basis for intellectual life must be assured.

Mental health is also of profound importance. With it, the pupil can have that desire and respect for learning which promote the satisfactory development of his capacity for effective mental performance. Without it, the likelihood of such development is drastically reduced, if not rendered impossible. The pupil who is in rebellion against authority, who feels inadequate, insecure, or unduly apprehensive, is hampered in his learning; and he frequently hampers the learning of others. As the child is helped to view himself and the society in a healthy way, to develop self-discipline, and to feel secure in his relationships, he becomes better able to respond positively to the school.

It is a responsibility of the society to identify and combat the forces which militate against healthy growth; but the school must also deal with the pupil as he is. Rapport must be established with every pupil, and when emotional maladjustment impedes progress or when motivation is lacking, the school must help him cope with his personal difficulties. It must create the conditions in which the school experience can mean something to him. This may require starting from programs with limited use of the higher intel-

lectual processes and planning for him a sequence of stimulating activities to engage and expand his interests and progressively to raise the level at which he is able to attack problems.

The school must be guided in all things by a recognition of human individuality. Each pupil is unique. He is different in background, in interests, moods, and tastes. This uniqueness deeply affects his learning, for he can react to the school only in terms of the person he is. No two pupils necessarily learn the same thing from a common learning experience. The school must not only recognize differences among pupils; it must deal with each pupil as an individual.

While the development of rational powers is central among the several important purposes of the schools provided for all youth, the ability to utilize such opportunity varies considerably. The schools must meet the needs of those who are handicapped in their rational powers by cultural deprivation, low levels of family aspiration, or severely limited endowment. Hence, to take account of these and other individual needs and differences, the schools must and should vary the relative emphasis they place on the development of rational powers among their other important purposes.

DEVELOPING RATIONAL POWERS

Although research has not yet yielded a firm base for planning programs to develop intellectual power, the research which has been done, combined with the experience of teachers, does provide some guidance.

The school which develops the ability to think is itself a place where thought is respected and where the humane values implicit in rationality are honored. It has an atmosphere conducive to thinking, and it rewards its pupils for progress toward the goals that it values. Such a school consciously strives to develop its pupils' rational powers. It achieves its goals because it aims directly at them.

The rational powers of any person are developed gradually and continuously as and when he uses them successfully. There is no evidence that they can be developed in any other way. They do not emerge quickly or without effort. The learner of any age, therefore, must have the desire to develop his ability to think. Motivation of this sort rests on feelings of personal adequacy and is reinforced by successful experience. Thus the learner must be encouraged in his early efforts to grapple with problems that engage his rational abilities at their current level of development, and he must experience success in these efforts.

The teacher has the critical role in enabling the student to achieve these successes, selecting problems which are within his grasp, providing clues and cues to their solution, suggesting alternative ways to think about them, and assessing continuously the progress of the pupil and the degree of difficulty of the problems before him. Good teaching can help students to learn to think clearly. But this can be done only by careful selection of teaching procedures deliberately adapted to each learner.

Choice as to methods and means of developing the ability to think is necessarily in the hands of the individual teacher. Professional and lay assistance may be brought into the classroom, but the intimate awareness of changes in pupils which permits evaluation of progress cannot be possessed by persons who have only limited or irregular contact with the pupils. It is therefore crucial that the teacher possess a thorough knowledge of the material to be taught, a mature mastery of a variety of teaching procedures, an understanding of his pupils, and the quality of judgment that will enable him to blend all in making decisions.

Study of an abstract subject like mathematics or philosophy, in and of itself, does not necessarily enhance rational powers, and it is possible that experiences in areas which appear to have little connection may in fact make a substantial contribution to rational development. As a case in point, the abilities involved in

perceiving and recognizing pattern in a mass of abstract data are of considerable importance in learning to analyze, deduce, or infer. These abilities may be developed in the course of mathematical study; but they may be developed as well through experiences in aesthetic, humanistic, and practical fields, which also involve perception of form and design. Music, for example, challenges the listener to perceive elements of form within the abstract. Similarly, vocational subjects may engage the rational powers of pupils.

Also, there is a highly creative aspect in the processes of thought. All the higher mental processes involve more than simple awareness of facts; they depend also on the ability to conceive what might be as well as what is, to construct mental images in new and original ways. Experiences in literature and the arts may well make a larger contribution to these abilities than studies usually assumed to develop abstract thinking.

Further, the processes of thought demand the ability to integrate perceptions of objective phenomena with judgments of value in which subjective emotional commitments are important elements. Perceptions of the feelings of individuals—one's own and those of others—also provide data for the processes of thought. There is no assurance that the ability to perceive or to integrate these varied elements is acquired by abstract study alone.

No particular body of knowledge will of itself develop the ability to think clearly. The development of this ability depends instead on methods that encourage the transfer of learning from one context to another and the reorganization of things learned. The child can transfer learning when he is challenged to give thought to the solution of new problems, problems in which he becomes interested because they are within his range of comprehension, problems that make him strive to use fully his developed and developing abilities.

Although the substance of knowledge does not of itself convey intellectual power, it is the raw material of thought. The ability to

think cannot be developed or applied without subject matter. There are two bases for choosing the substantive knowledge which pupils should learn. One is the potential of the knowledge for development of rational powers; the other is the relative importance of the knowledge in the life of the pupil and of society.

The social sciences, for example, provide an excellent opportunity to acquire knowledge which is of considerable importance in daily living and simultaneously to improve the ability to analyze, compare, generalize, and evaluate information. Individual and social interests alike require that the citizen understand the nature and traditions of the free society and that he have skill and insight in studying the issues which his society faces. This requires the tools of the historian, economist, political scientist, sociologist, geographer, and anthropologist. The pupil who learns to use these tools and to integrate the insights to which they lead will improve his ability to think wisely about social problems and to acquire information of significance to himself and his society. He will also develop a sense of the complexity of society and the difficulties which lie in the path of those who would understand it and meet its problems.

The school must foster not only desire and respect for knowledge but also the inquiring spirit. It must encourage the pupil to ask: "How do I know?" as well as "What do I know?" Consequently, the school must help the pupil grasp some of the main methods—the strategies of inquiry—by which man has sought to extend his knowledge and understanding of the world. This requires emphasis on the strategies that have proved most successful. The student should, for example, develop some understanding of the methods of inquiry characteristic of the natural and social sciences. Educators, working with experts in the various disciplines, should choose content on the basis of its appropriateness for developing in pupils of various ages understanding of the various strategies of inquiry.

Application of these strategies of inquiry has led not only to substantive knowledge of the objective world, but also to insights into the nature of reality and of the place of man in the general scheme of things. The free mind is aware of these insights: the astronomer's view of the vastness of space, the physicist's view of the almost infinitesimal, the biologist's view of endless change, the geologist's view of the infinity of time, the historian's view of continuity, the anthropologist's view of human variation.

In acquainting students with the strategies of inquiry, the teacher can further their ability to identify and qualify generalizations, to recognize statements which are not and perhaps cannot be supported by data, to move from data to appropriate generalizations, and to project new hypotheses.

Emphasis on the strategies of inquiry can have the additional effects of arousing appreciation of the competence and work of the masters of these fields of learning and of contributing to the ability to reach the decisions required by responsible citizenship today.

In addition to seeking development of the specific rational powers, the school must help the student extend the areas of his life to which he applies them. Thus the school goes beyond the experiences which develop thinking to encourage the student to think about his environment and himself, to use his mind to make of himself a good citizen and contributing person. Through his ability to perceive form and design he can appreciate the role of beauty in his life. His awareness of his values and his reasoned commitment to them provide him with a basis for looking objectively at his own values and those of others and thus for achieving a moral life. The school should encourage the student to live the life of dignity which rationality fosters.

PART III

CONCLUSION

INDIVIDUAL freedom and effectiveness and the progress of the society require the development of every citizen's rational powers. Among the many important purposes of American schools the fostering of that development must be central.

Man has already transformed his world by using his mind. As he expands the application of rational methods to problems old and new, and as people in growing numbers are enabled to contribute to such endeavors, man will increase his ability to understand, to act, and to alter his environment. Where these developments will lead cannot be foretold.

Man has before him the possibility of a new level of greatness, a new realization of human dignity and effectiveness. The instrument which will realize this possibility is that kind of education which frees the mind and enables it to contribute to a full and worthy life. To achieve this goal is the high hope of the nation and the central challenge to its schools.