

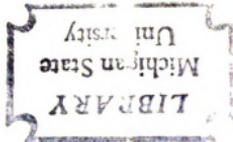
A STUDY OF THE ACCEPTANCE OF OPEN EDUCATION
CONCEPTS BY INDUSTRIAL ARTS TEACHER EDUCATORS

Dissertation for the Degree of Ph. D.

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LOWELL SETH ZURBUCH

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This is to certify that the
thesis entitled

A STUDY OF THE ACCEPTANCE OF
OPEN EDUCATION CONCEPTS BY
INDUSTRIAL ARTS TEACHER EDUCATORS

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LOWELL SETH ZURBUCH

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ABSTRACT

A STUDY OF THE ACCEPTANCE OF OPEN EDUCATION CONCEPTS BY INDUSTRIAL ARTS TEACHER EDUCATORS

By

Lowell Seth Zurbuch

This is a study which might be best described as both historical and descriptive research. It concerns itself with a recent development in American education known as open education and its implications for industrial arts education. The purpose of the study, as cited in Chapter I, was twofold -- to examine the literature to determine whether industrial arts leaders in the past accepted open education concepts and also to investigate whether industrial arts teacher educators presently hold open education attitudes toward learning and knowledge. The hypotheses were that many of the founders of industrial arts held open education beliefs and that industrial arts teacher educators continue to accept open education concepts. The result of such information would seem to offer important curricular ramifications.

Chapter II examines open education which has developed from informal education practices particularly found in elementary schools within Leicestershire County, Great Britain. Open educators feel disposed that there be consistency between their educational beliefs and practices.

It is claimed such beliefs are supported by the work of Jean Piaget and other eminent psychologists. Faith or trust in a student's natural desire to learn appears to lie at the heart of open education. Classroom strategy attempts to operationalize a belief that children learn at different rates and in different styles befitting their individuality. Accordingly the idiosyncratic nature of learning is respected in an open classroom. In addition Chapter II examines earlier philosophic support for open education concepts through the writings of Comenius, Rousseau, Pestalozzi, Froebel, Dewey, and Bode.

Chapter III explores manual training, manual arts, and industrial arts literature to examine how open education concepts have been addressed in the past. There was found to be a great deal of discussion of issues which directly impinge upon open education concepts.

Chapter IV serves to describe procedures used to investigate whether industrial arts teacher educators currently accept open education concepts. A Likert type questionnaire with twenty-nine statements designed by Dr. Roland Barth at Harvard University was selected for the purpose of this study. The Barth scale was found to be valid by Anthony Coletta at the University of Connecticut. The population selected for this study is the American Council on Industrial Arts Teacher Education (ACIATE) from which a sample size of 300 was drawn from the 1,096 membership. The ACIATE is comprised of industrial arts professors throughout the United States. The response was 83.6%.

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Analysis of the data is found in Chapter V. Examination of the data discloses that the ACIATE accepts open education concepts. Such acceptance appears to be unaffected by age, years of teaching, or geographic region. A factor labeled by Coletta "Learning Facilitators" was most accepted while another of seven factors labeled "Curriculum Flexibility" received a "no strong feeling" response.

The study concludes with Chapter VI which offers a summary, draws conclusions, and provides implications for research. The primary conclusion was that industrial arts teacher educators held and continue to hold open education beliefs. It would seem industrial arts is at its best when content is drawn from technology as demonstrated by numerous curricular experiments and its methodology from open education.

A STUDY OF THE ACCEPTANCE OF
OPEN EDUCATION CONCEPTS BY
INDUSTRIAL ARTS TEACHER EDUCATORS

By

Lowell Seth Zurbuch

A DISSERTATION

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636522

Dedicated to my late father, Francis G. Zurbuch, who was my greatest teacher -- not by lofty precepts but rather by the example he set.

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CHAPTER I

THE PROBLEM AND PURPOSES OF THE STUDY

For more than a hundred years much complaint has been made of the unmethodical way in which schools are conducted, but it is only within the last thirty that any serious attempt has been made to find a remedy for this state of things. And with what result? Schools remain exactly as they were. If any scholar, either privately or in school, embarked on a course of study, he found himself a butt for the mockery of the ignorant or the malvolence of the ill-disposed, or finally, being unable to obtain any assistance, found his endeavour too laborious, and gave it up. Thus all efforts have hitherto been in vain.¹

--Comenius, 1632

Introduction

During the past several years a new revolution in education has come to the United States. A variety of terms are used to describe the quiet revolution. In some quarters it is known as informal education, the integrated curriculum, and a variety of other descriptors. Open education appears to be the most popular label in this country. Many of the principles are reminiscent of the progressive education era of nearly fifty years ago.

The similarity is impressive between contemporary open education literature and that which has been written in

¹John Amos Comenius, The Great Didactic of John Amos Comenius, trans. M. W. Keatinge (New York: Russell & Russell, 1910), p. 259.

years past concerning industrial arts. Did not many of the founders of industrial arts urge the adoption of what are in effect open education concepts? Has not the best of industrial arts for many years been open education? William Van Til identifies advocates of open education as the "compassionate critics." He speaks of the compassionate critics as generally being "long on wisdom about children and short on knowledge of the educational leaders who preceded their own generation."²

It is in such a context that this study was undertaken. In other words, this study is not designed to simply laud industrial arts leaders as pioneers of progressivism in American education. Quite to the contrary, this study is an attempt to document present as well as past beliefs about education held by industrial arts leaders. Presumably such information has curricular implications. Therefore this study is described as both historical and descriptive research.

Problem Statement

The problem is to investigate beliefs held by industrial arts teacher educators about open education concepts. This study is intended to provide a comparison between the beliefs held by the founders of industrial arts and those of today's industrial arts teacher educators. Consistency or

²William Van Til (ed.), Curriculum: Quest for Relevance (Boston: Houghton Mifflin Company, 1971), p. 6.

redirection from the past can thus be examined to provide curricular implications. Furthermore, this study is designed to attempt to determine whether industrial arts teacher educators vary in their acceptance of open education when compared by age, years of teaching, and by geographic region.

Before such a description and comparison of past and present beliefs can be reported, it is vital to examine open education concepts. In so doing it would be prudent to examine the philosophical and historical heritage which buttresses open education.

Hypotheses

One hypothesis is that industrial arts teacher educators hold beliefs about learning and knowledge which are in agreement with open education concepts. Furthermore, it is hypothesized that industrial arts literature contains evidence that many of its founders held what are now regarded as open education beliefs.

Importance of the Study

While not wishing to overinflate the importance of its contribution, this study is nevertheless important in light of the curricular transformation currently taking place in industrial arts. What educational beliefs are held by industrial arts teacher educators? Is there consistency between the stated beliefs of industrial arts teacher educators and their classroom practices? Do industrial arts teacher educators view learning differently from other

teacher educators? These and a host of other similar questions are surely justifiable studies. We simply need to know where we are going, what route we have selected, and whether we are traveling with others. Avoidance of these questions leads to educational bedlam.

This study is designed to investigate only a small portion of the foregoing questions. The study is necessarily multi-faceted. A review of the literature is by no means perfunctory but rather central to communicating a belief about the contributions of industrial arts. Such an examination is vital to establish whether industrial arts has an open education heritage. The literature review thus serves as a bench mark against which to evaluate a survey of educational attitudes presently held by industrial arts teacher educators. If industrial arts can be shown to have been founded on open education concepts, it becomes noteworthy whether or not industrial arts teacher educators remain consistent in their open education beliefs. If industrial arts teacher educators are identified through the survey as holding open education beliefs, a question arises whether there is consistency with the industrial arts curricula in our schools. There is also the question of discrepancy between numerous experimental curricular projects in industrial arts which appear to refute open education and the stated beliefs of industrial arts teacher educators favoring open education. Conversely, assuming that industrial arts can be shown as being sympathetic toward open education in the past,

it would be important to discover if industrial arts teacher educators now ascribe to a model other than open education. Such a discovery would signal a new watershed in industrial arts education, perhaps suggesting a redirection.

Limitations of the Study

This study is designed within a number of predetermined limitations. Such parameters are necessary to establish a framework for both the investigator and reader. The first limitation is that the study makes no attempt to assert the supremacy of open education concepts. A disclaimer is obviously appropriate inasmuch as open education fits but one model of education. The struggle to describe and establish implacable definitions of learning continues. The problems of defining learning phenomena both frustrate and inspire educators. The history of the rise and fall of various psychology models in education prophetically cautions about the dangers of being steadfast in our positions toward learning. This is not to suggest open education as being without an empirical psychological foundation. Proponents for open education find support in the research of Jean Piaget, Jerome Bruner, Carl Rogers, Kenneth Wann, and J. McVicker Hunt.

The second limitation involves the scope of the instrument used in this study. The questionnaire examines whether one accepts open education assumptions about learning and knowledge. It does not attempt to describe whether

respondents practice open education in their classrooms. Nor does the instrument measure a wider continuum of attitudes toward learning and knowledge beyond open education.

A third limitation concerns the validity of the instrument used for the purposes of this study. The questionnaire used was designed by Roland Barth for his doctoral dissertation at Harvard University in 1970. The Barth scale has recently been statistically analyzed by Anthony Coletta at the University of Connecticut, and the results of his research will be offered in Chapter IV. Nevertheless, one remains uncertain whether the nuances of human motives and actions can be predicted. Human behavior is too unpredictable to justify categorical assertions from the results of a questionnaire. Therefore it seems prudent to couch findings as being suggestive rather than being absolutely definitive.

A fourth limitation concerns the population selected for the administration of the instrument. The population selected is the American Council on Industrial Arts Teacher Education (ACIATE), which contains most of the professors of industrial arts throughout the United States who are teacher educators. The study doesn't examine the acceptance of open education held by industrial arts majors in college or industrial arts teachers in elementary and secondary schools. Perhaps attitudes toward open education held by the professors can be inferred as being compatible with those of industrial arts majors and elementary-secondary school industrial arts teachers. However, such an inference

is beyond the purposes of this study. Aside from the obvious advantage of a convenient membership directory, the decision to concentrate on industrial arts professors was made inasmuch as they are assumed as being influential in curricular innovation for the whole of industrial arts.

A fifth limitation deals with the time span of the literature review which commences in 1632 with Comenius. Although others, such as Martin Luther and Francis Bacon, are reported to have held open education beliefs, it was deemed sufficient for the purposes of this study to document no earlier than Comenius.

The sixth limitation concerns the documentation in the literature review, which is selective rather than exhaustive. Repetition of views may result from an overly exhaustive literature review. The tenor of attitudes is expected to be demonstrated by a selective literature review. Judicious decision making when compiling a selective literature search must be followed to assure a realistically accurate overview.

The seventh limitation is an assumption. Respondents to the questionnaire, as industrial arts teacher educators, presumably tended to inject industrial arts into each assumption rather than the whole of education.

Definitions of Terms

Inasmuch as the terms "industrial arts" and "open education" are frequently used throughout this study, it

is most appropriate that definitions be provided the reader, should these terms be unfamiliar. Unfortunately, to a certain extent exact universally accepted definitions are difficult to provide. Therefore several definitions for industrial arts are provided for the reader's perusal. Open education is even more difficult to define. Precise definitions appear to be scarce. The reflection of open education's evolving nature and multi-interpretation appears to cause open education authors to suspend formal definitions in favor of descriptions and examples.

Industrial Arts

Bonser and Mossman provided an antecedent definition in 1923 by defining industrial arts as "a study of the changes made by man in the forms of materials to increase their values, and of the problems of life related to these changes."³

In 1948 Wilber provided a more expansive and popularly accepted definition of industrial arts as "those phases of general education which deal with industry -- its organization, materials, occupations, processes, and products -- and with the problems resulting from the industrial and technological nature of society."⁴

³Frederick G. Bonser and Lois Coffey Mossman, Industrial Arts for Elementary Schools (New York: The Macmillan Company, 1925), p. 5.

⁴Gordon O. Wilber, Industrial Arts in General Education (2d ed.; Scranton, Pennsylvania: International Textbook Co., 1954), p. 2.

The American Industrial Arts Association in 1969 published four statements of purpose considered unique to industrial arts. They are the following:

- [1.] To develop in each student an insight and understanding of industry and its place in our society.
- [2.] To discover and develop student talents in industrial-technical fields. . . .
- [3.] To develop problem-solving abilities related to the materials, processes, and products of industry. . . .
- [4.] To develop in each student skill in the proficient and safe use of tools and machines. . . .⁵

Open Education

Tatis speaks of open education as an umbrella term for a more flexible approach to education in elementary, secondary, and higher education. She also makes reference to the recent influences of the British infant schools. Her definition of open education is the following:

Open education is a method of fostering the personal growth and expansion of knowledge of students through (a) expanded and/or flexible facilities such as interest centers within self-contained classrooms, new open-plan schools, or community facilities; (b) trust in the student's desire to learn and ability to choose his own learning experiences; (c) provision of many and varied learning materials; and (d) emphasis on a positive role for the teacher as a facilitator and guide to learning.⁶

⁵American Council of Industrial Arts Supervisors, American Industrial Arts Association, Industrial Arts Education (rev. ed.; Washington, D.C.: American Industrial Arts Association, Inc., 1969), pp. 4-5.

⁶Rita Tatis, "Opening Up Education: A Guide to New Vocabulary," The Journal of Teacher Education, XXIII (Spring, 1972), 91.

The Tatis definition of open education concentrates upon its method which provides operational terms for greater understanding. However, the method of open education is undergirded with a set of concepts. Perhaps not each concept is unique to open education, but, taken collectively, they serve to establish the bailiwick of open education.

Barth's twenty-nine assumptions about learning and knowledge are frequently cited in open education literature as the concepts which are manifested in the methods of open education. Consequently, for the purposes of this study the Barth scale was administered to a sample drawn on the membership of the American Council on Industrial Arts Teacher Education. Several of these assumptions which follow may suggest the position held by open educators:

Assumption 7: Children have both the competence and the right to make significant decisions concerning their own learning.

Assumption 14: Children learn and develop intellectually not only at their own rate but in their own style.

Assumption 20: Those qualities of a person's learning which can be carefully measured are not necessarily the most important.⁷

For the purposes of this study the foregoing definitions are considered adequate. A more expansive description of industrial arts and open education will be developed in Chapters II and III.

⁷Roland S. Barth, "So You Want to Change to an Open Classroom," Phi Delta Kappan, LIII (October, 1971), 98-99.

Organization of the Remainder of the Study

Chapter II contains a review of the literature which develops the direction of the study. The literature review includes two interrelated topics. These include contemporary open education and early philosophic support for open education.

The open education section of Chapter II provides a rather thorough description of criticisms toward certain educational practices as contrasted against a description of open education beliefs and practices. Criteria for selection of open education authors for reference purposes was accomplished by a rather thorough examination of the literature. Correspondence and telephone conversations with several individuals frequently found in the literature provided advice as to including other authors. Furthermore, interviews with other authorities who demonstrate interest and knowledge about open education offered suggestions concerning appropriate citations for the purposes of this study.

The section on philosophic support toward open education is organized in a chronological context emphasizing the contributions of selected philosophers; namely, Comenius, Rousseau, Pestalozzi, Froebel, Dewey, and Bode. These philosophers were selected due to the frequency they are cited in progressive education literature, which itself contained many of the beliefs common to open education.

Chapter III, the industrial arts literature review, emphasizes beliefs and issues common to both open education

and industrial arts. Guidelines for selection of authors in the industrial arts literature review is established by four sets of criteria. (1) Early authors were to be found in Bennett's book.⁸ (2) Industrial arts authors were also to have been teacher educators. (3) Such authors were recommended by interviews and correspondence with numerous authorities of industrial arts history as having written about issues now considered open education. (4) Furthermore, the industrial arts leaders included in the literature review were to no longer be active leaders in the field. It should be noted that a serious and sincere attempt was made to search for statements in opposition to open education concepts as well as those supportive.

Chapter IV is utilized to describe the design of the study. The population will be described in terms of composition and rationale for its selection. The sample drawn on the population will then be reported. Instrument selection rationale is discussed, including validity and reliability. The data collecting procedures are reported, including instrument preparation, mailing, and contact of non-respondents. Data processing is then described in terms of record keeping and coding technique in preparation for the computer.

⁸Charles Alpheus Bennett, History of Manual and Industrial Education, 1870 to 1917 (Peoria: The Manual Arts Press, 1937).

Chapter V is devoted to the analysis of the data. As previously identified in the problem statement, the principal question is whether industrial arts teacher educators are in agreement with open education concepts. Data will be displayed in charts and graphs in addition to verbal descriptions. The data will also be analyzed for possible correlations between ages of respondents and acceptance of open education concepts. The years of teaching of respondents will also be examined for correlation with open education acceptance. An analysis of variance throughout the eight geographic regions will also be reported.

Chapter VI contains a summarization, conclusions drawn, and implications for additional research. The summary provides a brief overview of the study with its purposes and procedures. Conclusions will be directed toward the interpretation of the literature search and the significance of the data collected. The implications for research will cite ramifications this study has generated. Included will be recommendations for initiation of subsequent studies of a tangential nature to this study. A bibliography and appendices follow the conclusion of Chapter VI.

CHAPTER II

REVIEW OF OPEN EDUCATION LITERATURE

Introduction

Chapter II is divided into two sections, including an examination of open education and its early philosophic support for open education. The open education section studies criticisms of traditional education, alternatives offered by open education, and the potential dangers incurred by its unwise implementation. The philosophic section covers a time span from the early 1600's to the late 1930's. Selective references are studied to offer support for open education.

Open Education

As briefly discussed in Chapter I, open education is undergirded by certain beliefs toward learning and knowledge which are evidenced by rather unique classroom practices. Open education finds its heritage in that which can legitimately be classified progressive education although contemporary open education authors credit the current renewal of such beliefs and practices to informal education in Great Britain.

General Criticisms of Traditional Education

Open education advocates level numerous specific criticisms toward traditional education. Included are complaints toward matters such as control, docility, teacher domination, and evaluation. Although these and other matters will subsequently be discussed, it is essential to first examine other overriding considerations to more fully appreciate the spirit and impact of open education.

Open educators equate most of our school environments as being impersonal educational factories. The present system is viewed as society's perception of education and children in general. Open educators acknowledge that popular acceptance and implementation of open education are dependent upon society's approval of open education views. There are social, economic, and political ramifications which our society may or may not accept or be willing to confront.

Inasmuch as open education is so elusive when one seeks a definition, it also becomes difficult to decide which of many authors speak for all of open education. Since it is yet evolving, it seems acceptable to offer the views of many authors critical of our traditional education system. Occasionally an educational critic makes a statement which goes beyond the bounds popularly accepted within open education. For example, John Holt and Paul Goodman have made statements in opposition to compulsory education which may be too radical for other open educators.

Charles Silberman's Crisis in the Classroom appears to be a hallmark in the criticism of traditional education. With the support of the Carnegie Corporation, Silberman spent nearly four years visiting schools throughout the United States. He provides his reader with a most frightening and compelling observation when he generalizes about our schools.

It is not possible to spend any prolonged period visiting public school classrooms without being appalled by the mutilation visible everywhere -- mutilation of spontaneity, of joy in learning, of pleasure in creating, of sense of self. The public schools -- those "killers of the dream," to appropriate a phrase of Lillian Smith's -- are the kind of institution one cannot really dislike until one gets to know them well. Because adults take the schools so much for granted, they fail to appreciate what grim, joyless places most American schools are, how oppressive and petty are the rules by which they are governed, how intellectually sterile and esthetically barren the atmosphere, what an appalling lack of civility obtains on the part of teachers and principals, what contempt they unconsciously display for children as children.⁹

It appears open educators are very critical of the present educational system popularly found throughout the United States. They argue that the needs of children are being ignored in what may be an unpremeditated fashion by an educational establishment having dissimilar views on the purposes of schools.

John Holt has carefully observed children at home and in school. His observations are often very poignant and filled with insight.

⁹Charles E. Silberman, Crisis in the Classroom (New York: Vintage Books, 1971), p. 10.

Nobody starts off stupid. You have only to watch babies and infants, and think seriously about what all of them learn and do, to see that, except for the most grossly retarded, they show a style of life, and a desire and ability to learn that in an older person we might well call genius.¹⁰

One wonders how children so full of promise as infants often become less successful in our schools. Open educators contend that our schools are based on the mass production system model which has been so successful in industry but very inappropriate for the education of our youth. Our large buildings run children through the curriculum in a most expeditious manner. Schools are not without success. Each year our schools receive many visitors from other countries to see our mass education experiment first hand. The mass production educational climate has realized a false economy. Open educators contend that our schools are often doing a good job but must do much better if schools are going to continue to meet the needs of youth and society. There are two goals to which education must attend, declares Silberman. The first is more visible in that poorer schools must be brought up to the level of the best. Such an achievement may not be sufficient, for the best schools we now have are not good enough. Therefore the secondary objective must be to redirect all schools to better meet the needs of youth and society. Such a task

¹⁰John Holt, How Children Fail (New York: Dell Publishing Co., Inc., 1970), p. 207.

will require tremendous conviction, foresight, and cooperation.¹¹

Silberman notes that the educational crisis is affected by more demands on young people than ever before. There are so many decisions to make that the young are often bewildered. The result often leads to a total rejection of culture, morality, and our legal system. The bewilderment also tends to cause the young to equate authority as being the same as power.¹² It is into such a context that the impact of change affects education. Our country has especially been affected by all types of change, not the least of which is technological. Postman and Weingartner note that there are those who believe that change has always been with us but fail to realize that the rate of change has changed.¹³

So many of the open educators are angered by an education which has opted to resemble a single minded factory at a time when the young desperately need to understand the changes taking place. They find it difficult to understand why society has changed, but not our schools.¹⁴ Ashley Montagu's description of our schools is typical of other open educators' views.

¹¹Silberman, op. cit., p. 4.

¹²Ibid., pp. 22-25.

¹³Neil Postman and Charles Weingartner, Teaching as a Subversive Activity (New York: Delacorte Press, 1969), pp. 10-11.

¹⁴Ibid., p. xiii.

The continuing traditional methods of "education" have really nothing whatever to do with the functions and purposes of a genuine education, namely, to nourish and to cause the individual's uniqueness and creativity to grow. On the contrary, what traditional education for the most part succeeds in achieving is the frustration of the individual's uniqueness and creativity. This is customarily achieved by putting the child on an assembly-line in which, instead of being treated as the unique individual he is, he is dealt with as if he were exactly like everyone else. In the factories called schools the child is forced to engorge large quantities of rote-remembered facts, and then at certain calculated ceremonial ordeals called "examinations," he is required to disgorge these facts onto blank sheets of paper, thus leaving his mind blank forever thereafter.¹⁵

The result is not too satisfactory, claim the open educators. John Holt describes the effect of the mass production schools as forcing children to become producers rather than thinkers. They diligently slog through the tasks which become ends in themselves. In effect the means have become the ends.¹⁶ Obviously there are enough outward successes to give credence to the system. However, there are more failures than readily apparent. Holt charges that there are many students who fail becoming what they might have been.¹⁷ These failures include matters of creativity, self-reliance, and joy of living. An aphorism is suggested by Postman and Weingartner to describe the transformation of school children. "Children enter school as question

¹⁵Harold H. Hart (ed.), Summerhill: For and Against (New York: Hart Publishing Co., Inc., 1970), p. 51.

¹⁶Holt, How Children Fail, p. 48.

¹⁷Ibid., p. 13.

marks and leave as periods."¹⁸ Silberman notes that it is strange that so few students rebel against an educational system they secretly despise. He quotes the comments of a high school student.

"The main thing is not to take it personal, to understand that it's just a system and it treats you the same way it treats everybody else, like an engine or a machine or something mechanical. Our names get fed into it -- we get fed into it -- when we're five years old, and if we catch on and watch our step, it spits us out when we're 17 or 18. . . ."¹⁹

One wonders why more students don't reject the system. Surely there are some students who are basically satisfied with school although even they find it at times rather insipid. Holt maintains that youth often treat school as a postponement of gratification.

Even in the suburbs, school is unspeakably dull, and usually painful, but the middle-class child puts up with it, because his elders dangle a carrot in front of him and wave a stick behind him, and he wants the carrot and fears the stick. The slum child, and indeed the failing child in any school, after a while no longer believes in the carrot and no longer fears the stick. You aren't going to get those prizes they dangle in front of you. As for punishments, well, if you're a child, there is only so much that society can do to you, and you soon get used to that. Not only used -- even proud of it; when a child has been, so to speak, ritually cast out of society a certain number of times, he soon feels that he would rather be outside than inside.²⁰

¹⁸Postman and Weingartner, Teaching as a Subversive Activity, p. 60.

¹⁹Silberman, op. cit., p. 155.

²⁰John Holt, The Underachieving School (New York: Dell Publishing Co., Inc., 1969), p. 143.

The growing militancy in the schools is unnerving for teachers and administrators. Herbert Kohl speaks of one particular instance.

Bright students in many schools I have visited recently are the leaders of student movements and feel social action is more important than academic success. This poses a great problem for authoritarian administrators since the threat of giving poor grades to rebels no longer holds much force. One administrator complained to me that when he threatened to fail some A-track students they told him to go ahead since they didn't care to succeed in his type of school. He felt disarmed -- and he was. His only resort was to call in the police to control his students.²¹

Bruno Bettelheim believes that parents view schools as the key to success for their children and thus sacrifice them to the future. The result is to place children on a competitive treadmill in our schools from which children can't escape.²² Our success orientated society offers youth in schools few options. Postman and Weingartner contend that to question what is going on in the schools requires a student to drop out. They believe that acceptance of authority is the price into the "Establishment."²³

Consequently, we have produced a process we misname education, says John Holt. He explains why the potential of the infant is not fully realized in our schools.

²¹Herbert R. Kohl, The Open Classroom (New York: The New York Review, 1969), p. 44.

²²Hart, op. cit., p. 111.

²³Postman and Weingartner, Teaching as a Subversive Activity, p. 24.

What happens is that it is destroyed, and more than by any other one thing, by the process that we misname education -- a process that goes on in most homes and schools. We adults destroy most of the intellectual and creative capacity of children by the things we do to them or make them do. We destroy this capacity above all by making them afraid, afraid of not doing what other people want, of not pleasing, of making mistakes, of failing, of being wrong. Thus we make them afraid to gamble, afraid to experiment, afraid to try the difficult and the unknown. Even when we do not create children's fears, when they come to us with fears ready-made and built-in, we use these fears as handles to manipulate them and get them to to [sic] do what we want. Instead of trying to whittle down their fears, we build them up, often to monstrous size. For we like children who are a little afraid of us, docile, deferential children, though not, of course, if they are so obviously afraid that they threaten our image of ourselves as kind, lovable people whom there is no reason to fear. We find ideal the kind of "good" children who are just enough afraid of us to do everything we want, without making us feel that fear of us is what is making them do it.²⁴

The social and economic implications of the present school system which disturb the "compassionate critics" need further development. John Holt is one of the most critical. He contends that parents appear to secretly value the baby-sitting function of our schools.²⁵ Exploitation goes even further, claims Holt. He alleges that children are made to feel they must do well by the school. Their performance -- good and bad -- is a reflection upon the school. The gifted students are particularly exploited as they are used as a school's showcase. One of the original purposes of compulsory education was to save children from labor in an

²⁴Holt, How Children Fail, p. 208.

²⁵Holt, The Underachieving School, p. 78.

evolving industrial empire. Exploitation today takes place in the schools as many children are expected to put in a seventy hour week to meet school obligations.²⁶ The result of such exploitation, claims Holt, is for fears and anxieties to be produced in children beyond a level which adults would themselves accept. The activity in the school thus becomes self-defeating, since children soon forget their lessons once the pressure has passed.²⁷ Bruno Bettelheim supports Holt's views by noting that growth is a slower process than some educators seem to realize. Bettelheim urges that educators eschew the urge to initiate too many early academic activities. He contends there is a danger children may become full of facts but unsocialized and unable to live with others.²⁸

Paul Goodman views the schools as a holding action to keep the young away from interrupting the "delicate social machine." He acknowledges that such may be unavoidable but that schools should at least prepare the young for later entrance into the adult mainstream. He counters that Ivan Berg's study at Columbia indicates that dropouts are as successful as high school graduates. Goodman thus concludes that "schools seem to run for their own sake."²⁹

²⁶Ibid., p. 37.

²⁷Holt, How Children Fail, p. 91.

²⁸Hart, op. cit., p. 117.

²⁹Ibid., p. 210.

Goodman's views are echoed by Erich Fromm when he charges that each dropout is a nay vote against our schools. He asks whether there isn't a correlation between dropouts and juvenile delinquency. Schools must share responsibility for the social environment we live in.³⁰ In this context Holt criticizes school systems which have in effect spent enormous sums ultimately causing children to hate school only to spend additional monies to lure the dropouts back into the fold. If schools had done right by students in the first place, there could be incredible savings of all types. In effect Holt is suggesting that our schools hold a higher regard for our most valuable natural resource, our young people.³¹

Concomitant to the attitude toward dropouts is a dogma developed that poor city children, especially black children, cannot be taught. Holt believes that such a dogma eases the consciences of educators.³² Silberman reinforces Holt's position by asserting "the defects and failures of the slum schools are but an exaggerated version of what's wrong with all schools." Aside suffering from a banal curriculum which is often totally irrelevant to the needs of ghetto youth there also enters the "hidden curriculum." The children of the more affluent benefit from a home environment

³⁰Ibid., p. 252.

³¹Holt, The Underachieving School, p. 183.

³²Ibid., p. 158.

which compensates for and reinforces school activities. Such incidental learning may mean the difference between failure and success in schools.³³ Holt is thus led to suggest that we should discontinue clamoring for integrated education by the present methods. Such pressure only polarizes our society. Instead we should see all schools as unsatisfactory and in need of attention. He feels that integrated education is best realized by integrated housing.³⁴

Erich Fromm thus summarizes the general failure of our schools. In turn he notes that the schools are but a reflection of society as a whole.

Our economic system is geared to produce men who fit its needs: men who cooperate smoothly, men who want to consume more and more, men whose tastes are standardized, men who can be easily influenced, men whose needs can be anticipated, and men whose needs can be manipulated.

By the very nature of this process, our system also creates men who are anxious, men who are bored, men who feel inordinately lonely, men who have few convictions, men who have scant values, and most deplorably, men who have no joy in living. For most individuals today experience little aliveness within themselves.³⁵

Silberman thereby directs our attention from what is to what should be. He goes back to a conclusion of Wilford M. Aikin, who directed the famous Eight-Year Study which was concluded in 1942. Aikin wrote, "It is not enough to create better conditions for learning. It is equally

³³Silberman, op. cit., pp. 113-114.

³⁴Holt, The Underachieving School, p. 161.

³⁵Hart, op. cit., p. 252.

necessary to determine what American youth most need to learn."³⁶

John Holt summarizes the charges against traditional education. His summary appears to be representative of the views of most open educators.

Behind much of what we do in school lie some ideas, that could be expressed roughly as follows: (1) Of the vast body of human knowledge, there are certain bits and pieces that can be called essential, that everyone should know; (2) the extent to which a person can be considered educated, qualified to live intelligently in today's world and be a useful member of society, depends on the amount of this essential knowledge that he carries about with him; (3) it is the duty of schools, therefore, to get as much of this essential knowledge as possible into the minds of children. Thus we find ourselves trying to poke certain facts, recipes, and ideas down the gullets of every child in school, whether the morsel interests him or not, even if it frightens him or sickens him, and even if there are other things that he is much more interested in learning.³⁷

Traditional education has survived for a variety of reasons. For many teachers and society in general traditional education fits a correct model for education. Silberman believes that traditional education has survived because of unquestioned assumptions. Survival of traditional education and its underlying assumptions is viewed more as a factor of the slow pace of times past than inherent credibility. Radical changes sweeping our society have led to a reexamining of traditional education.³⁸

³⁶Silberman, op. cit., p. 349.

³⁷Holt, How Children Fail, pp. 215-216.

³⁸Silberman, op. cit., p. 207.

John Holt believes that the case for traditional education is weaker now than ever before. The certainty of information serving as a basis of traditional education is no longer possible. Knowledge must now be viewed as temporal. Therefore our decisions and actions must be couched in a new rubric. We must realize that complete information is impossible and make decisions accordingly. Likewise, students should be learning how to make decisions by using incomplete and changing information. Ability to discern the most important facts becomes a valuable asset. The renaissance man concept is no longer viable. Not only has there been an explosion of knowledge, but obsolete knowledge has also increased at a similar rate. Many of the facts we adults were taught as children are no longer accepted by the "experts." Our inability to know an entire "body of knowledge" need not be a deterrent. Holt tells of the work of Watson and Crick. They entered into a study without what would normally be considered an adequate prerequisite of knowledge. Rather than look upon their "lack of background in the fundamentals" as a limitation, they attacked their problem in a revolutionary fashion. Their "handicap" led to the discovery of the DNA molecule. One wonders whether our conventional outlook toward knowledge and preparation has not led to rather uncreative behavior.³⁹

³⁹Holt, The Underachieving School, pp. 171-187.

A departure from conventional education views may lead critics to charge that such a departure would lead to a lessening of standards. Postman and Weingartner counter that what pass for high standards are actually low standards, since they are unreal and uncommon in daily life. Adults don't solve problems by the regimented procedures unique to our schools.⁴⁰

John Holt supports this view by declaring that even graduates from the best of our "high standard" schools are not educated in the true sense of the word. They have been "successful" by being able to conform.⁴¹ William Hull, a close friend of John Holt, speaks of the effect of schools which pride themselves in "high standards."

The daily races in the classroom reward a limited and not very valuable range of talents. Given such a system, one should not be surprised that students with real creative potential are increasingly to be found among the deviants, the misfits. The tragedy is that those who are unwilling or unable to meet such narrow performance demands will have their confidence in their own ability destroyed and will be left with little understanding of their own talents, while those who are successful have their own price to pay. There is an intellectual discrimination in American schools that is every bit as vicious and damaging as racial discrimination.⁴²

Holt charges that many of the supposedly able students are not as able as they first appear. They have

⁴⁰Postman and Weingartner, Teaching as a Subversive Activity, p. 67.

⁴¹Holt, The Underachieving School, p. 106.

⁴²Charles H. Rathbone (ed.), Open Education: the Informal Classroom (New York: Citation Press, 1971), p. 56.

developed a scheme whereby they are able to manipulate symbols and words to impress the unsuspecting. However, these students become resentful when their ploy is discovered by an astute teacher or employer who probes for examples and interpretations of the symbols. In effect such students are able to provide impressive facts but lack a meaning making ability. As a result high standards can become very hollow.⁴³

In another publication Holt identifies what he considers to be the basic reasons for the failures of our schools. He identifies three things society expects from schools. These include passing on traditions, an awareness of the world today, and preparation for employment. Holt believes that trouble results when schools see these as their exclusive bailiwick. These responsibilities must be shared by parents, churches, organizations, corporations, media, and indeed the whole of society. The problem results when one is unable to distinguish between schooling and education. Schools suffer from a delusion of grandeur by acting as though one's entire education only takes place in a school. As a consequence children come to develop a false separation between work and education.⁴⁴ Silberman amplifies Holt's views by suggesting that a prolonged disengagement from society damages the student and society. The

⁴³Holt, How Children Fail, pp. 210-212.

⁴⁴Holt, The Underachieving School, pp. 4-5.

disengagement causes the student to become too self occupied. Society suffers by losing the services of its young. The great accomplishments that have gone down in history were often performed by young men and women who were apparently at a zenith in their creativity. Today this is more difficult inasmuch as our young people are being contained in schools. The extended training period for physicians and the accompanying shortage of doctors is a case in point.⁴⁵

Eda LeShan supports Silberman's view by discussing Maslow's work. Maslow has taken a position in opposition to the behaviorism of B. F. Skinner. Maslow objects to the mechanistic information, pouring-in approach of behaviorism. Rather than continue the extrinsic learning approach, LeShan supports Maslow's desire for schools pursuing an intrinsic approach for self-actualization.⁴⁶

Adjunct to the question of the school's role in society is the matter of compulsory education. Several writers argue against compulsory education. Their views do not appear to be popularly shared by all open educators, but open educators are apparently sensitive to the question of compulsory education. Paul Goodman and Ivan Illich have been outspoken critics of compulsory education. John Holt has recently joined their ranks. Goodman notes that only within the last 100 years has compulsory education gained

⁴⁵Silberman, op. cit., p. 118.

⁴⁶Hart, op. cit., pp. 133-135.

a foothold. Prior to that time virtually all learning was incidental. Goodman maintains that incidental learning is natural and an excellent method largely ignored by the schools. The original incentive for compulsory education was to protect the young from exploitation in the factories. Now the young are exploited by keeping them away from a society which doesn't need a larger work force.⁴⁷ Ivan Illich's publication, Deschooling Society, by its very title conveys his views. The overall message is that our society has come to look upon the schools as the single greatest personal and societal improvement institution. As a result adults have taught their children that school success is the key to adult success. Therefore go to school and secure a diploma that says you are educated whether or not you actually are. Illich argues that we must dispense with our obsession for formal education because of the damage to values. He insists human needs are not being met.

Under the authoritative eye of the teacher, several orders of value collapse into one. The distinctions between morality, legality, and personal worth are blurred and eventually eliminated. Each transgression is made to be felt as a multiple offense. The offender is expected to feel that he has broken a rule, that he has behaved immorally, and that he has let himself down. A pupil who adroitly obtains assistance on an exam is told that he is an outlaw, morally corrupt, and personally worthless.

Classroom attendance removes children from the everyday world of Western culture and plunges them into an environment far more primitive, magical, and deadly serious. School could not create

⁴⁷Ibid., p. 206.

such an enclave within which the rules of ordinary reality are suspended, unless it physically incarcerated the young during many successive years on sacred territory. The attendance rule makes it possible for the schoolroom to serve as a magic womb, from which the child is delivered periodically at the schoolday's and school year's completion until he is finally expelled into adult life. Neither universal extended childhood nor the smothering atmosphere of the classroom could exist without schools. Yet schools, as compulsory channels for learning, could exist without either and be more repressive and destructive than anything we have come to know.⁴⁸

Holt describes how his classroom observations ultimately led him to conclude that compulsory education is harmful. He believes that compulsory education demonstrates that schools are jails for children.

The public has, in effect, said to our schools, "Lock up our children for six or more hours a day for a hundred and eighty or so days a year, so that they will be out of our hair and out of trouble -- and, by the way, while you have them locked up, try to educate them." The two demands are contradictory and self-canceling.⁴⁹

Holt argues that much of the vandalism and discipline problems in schools are caused by students who don't want to be there. Such acts are seen as the only way of striking back. He contends that student-teacher relationships suffer from the prison-like school atmosphere. In effect he is saying that attendance can be mandated but interest cannot. As evidence of the infeasibility of compulsory education Holt notes that it is inefficient in that

⁴⁸Ivan Illich, Deschooling Society (New York: Harrow Books, 1972), pp. 47-48.

⁴⁹Holt, The Underachieving School, pp. 71-72.

children can often make up in two days the work missed from a week's absence. Holt believes teachers to be arrogant and unrealistic for decrying a truancy as being a precious learning experience forever lost. He suggests that schools use public libraries as models. Voluntary attendance in a library leads to none of the discipline problems schools experience. A redefinition of schools would imply that attendance would have to be earned, not mandated, and that children would learn what they wanted when they wanted to learn.⁵⁰

Adoption of open education requires that many questions be answered. One such question has to do with who do the schools serve -- individuals or society. There are those who feel that since society pays the taxes, society should be the benefactor from public education. This is much like the father who complains about his adolescent son. "As long as he lives in my house, he is going to keep his room clean. I'm paying the bills, not him." Unfortunately such a father doesn't realize it is his son's home too. Open educators recognize that it would be both undesirable and unrealistic to ignore society's needs but appear to be in agreement that first priorities must favor individual needs.⁵¹

⁵⁰Ibid., pp. 71-74.

⁵¹Postman and Weingartner, Teaching as a Subversive Activity, p. 2.

One is left to wonder why schools are so bad if indeed they are. There are a variety of answers. Holt alleges that often teachers are to blame. The very teachers who began their profession with a missionary like zeal become frustrated when their attempts fail. The frustration results from bucking equally frustrated students who feel incarcerated. Thus the teachers tend to become contemptuous of the very students they once sought to help. Consequently, many teachers become spiteful and sadistic.⁵²

Silberman disagrees with Holt by suggesting that there are inferior teachers but not a disproportionate number in comparison to other professions. Silberman believes the causes are much deeper. He suggests that society doesn't truly care about what actually takes place in classrooms. In fact society appears to hold teachers in low esteem, as evidenced by stereotypes paraded through the media. Silberman found by his extensive travels that teachers often work in uninspiring environments. He frequently found deplorable working conditions. It appears that administrators felt economy could be demonstrated by having teachers in classrooms virtually every period. Little time is provided for reflection and dialogue; thereby teaching becomes a lonely profession. Competence appears to be judged by the results of standardized tests and silence from the teacher

⁵²Holt, The Underachieving School, p. 154.

and his charges. It is not unusual, therefore, that classes are conducted so as not to provide a poor reflection on the teacher.⁵³ Very little help comes to the teachers and what does come is only superficial. Teachers have become suspicious of "resource personnel" as being members of the administration spy network. Consequently, teachers become defensive and tend to anticipate failure. Unfortunately it too often becomes a self-fulfilling prophecy.⁵⁴

In this context teachers employ a variety of strategies in the classroom. One such strategy has been satirically described by Postman and Weingartner as the seductive method.

The goal remains the same: to get into the student's head a series of assertions, definitions, and names as quickly as possible. (This is called "covering content.") The method turns out to be a set of questions posed by the teacher, text, or machine which is intended to lead the student to produce the right answers -- answers that the teacher, text, or machine, by gum, knew all the time. This is sometimes called "programmed learning." So far, most students have been neither tricked nor intrigued by it. They recognize the old shell game when they see it, just as they recognize a lecture given on television as more of the same.⁵⁵

John Holt agrees with Postman and Weingartner and adds that planned discussions are often phony. A preplanned "discussion" found in a lesson plan book in which key points are to be covered is not a discussion at all but rather a

⁵³Silberman, op. cit., pp. 141-144.

⁵⁴Ibid., p. 321.

⁵⁵Postman and Weingartner, Teaching as a Subversive Activity, p. 28.

teacher dominated discourse. In actuality the discussion is more correctly called an "answer pulling" exercise.⁵⁶

Piaget has decried such practices. He writes,

"The principal goal of education is to create men who are capable of doing new things, not simply of repeating what other generations have done -- men who are creative, inventive, and discoverers, . . . minds that can be critical, can verify, and not accept everything they are offered."⁵⁷

Postman and Weingartner speak of the roles in which too many teachers envision themselves. One they know as the "Lamplighter" who wants to illuminate the minds of students lest they be cast into outer darkness. Another teacher likes to think of himself as a "Gardener" who sets out to cultivate young minds. Still another fancies himself as a "Personnel Manager" whose busy students become industrious. The "Muscle Builder" wages an exercise program against flabby minds. The "Bucket Filler" seeks to fill up the minds of students with his precious message. The essential flaw in the rationale of these teachers is the implication that all students are alike. The differences of children aren't being accommodated in such an environment.

In most of the other metaphors there is an assumption of "sameness" in all learners. The "garden" to be cultivated, the darkness to be lighted, the foundation to be built upon, the clay to be molded -- there is always the implication that all learning will occur in the same way. The flowers will be the same color, the light will reveal the same room, the clay will take the same shape, and so on. Moreover,

⁵⁶Holt, The Underachieving School, p. 107.

⁵⁷Silberman, op. cit., p. 219.

such metaphors imply boundaries, a limit to learning. How many flowers can a garden hold? How much water can a bucket take? What happens to the learner after his mind has been molded? How large can a building be, even if constructed on a solid foundation?⁵⁸

Specific Criticisms of Traditional Education

In addition to the general criticisms, open educators lodge a number of specific criticisms toward traditional education. The following discussion serves to identify more specific complaints.

Control

Open educators criticize the controls which schools attempt to impose. The teachers as well as students suffer from such controls. It is more pervasive than control of speech and movement. Control extends to time, curriculum, and indeed what to think.

John Holt speaks to the issue of control. He decries teachers' obsessions with order and discipline. It is his contention that such a model of education and the resulting problems are in large measure the consequence of compulsory education.

Their model of education and the classroom is an assembly line in a factory. Down the line come the children, a row of empty jugs; beside the line, each in his place, stand the teachers, pouring into these jugs out of containers marked English, math, etc., prescribed quantities of knowledge. The pouring is easy -- anyone can do

⁵⁸Postman and Weingartner, Teaching as a Subversive Activity, pp. 82-91.

that; anyone can do the things they tell you to do in the teachers' manuals. The real problem, the teacher's real job, is to get children to sit still on the conveyor belt while he does the pouring. This is why these teachers, like almost all teachers, think that learning is a by-product of order, that if you can just create the order, the learning must follow.⁵⁹

Herbert Kohl supports Holt's observations by criticizing the almost fanatic mania for control. His poignant descriptions identify the scope of petty bureaucratic details apparently designed to control children. Rather than consider order as a result of learning, teachers become pre-occupied by trying to first maintain order. Consequently, more time and energy is given to control than to education.

The entire staff of the school was obsessed by "control," and beneath the rhetoric of faculty meetings was the clear implication that students were a reckless, unpredictable, immoral, and dangerous enemy.⁶⁰

A battle wages in our schools. It is no longer uncommon to find police officers patrolling hallways in institutions purporting to be centers of learning. The schools have indeed become tinderboxes. Silberman cites the results of a poll taken in 1969 at an annual high school principals' convention. Of the principals sampled, some 60% admitted to having had "significant student protests in their schools during the past school year."⁶¹ Do the schools have to be

⁵⁹Holt, The Underachieving School, pp. 142-143.

⁶⁰Kohl, op. cit., p. 13.

⁶¹Silberman, op. cit., p. 13.

camps of insurrection? Open educators appear to be united in their beliefs that schools can be vastly better if they become vastly different. They contend that the present school structure must change as well as our attitudes toward children and education. Not only must teacher attitudes change, but also those of parents and the society in general. The prospects for new attitudes do not appear to be too promising. Silberman speaks of the results of a poll taken in 1969 by Louis Harris. Almost two-thirds of the parents of high school students polled believe that "maintaining discipline is more important than student self-inquiry." Twenty-seven percent of the teachers polled felt the same as the parents.⁶²

Not all of the controls result in violence, but the effects are nevertheless damaging. It is as though student behavior is restricted to a narrow band in order to be considered "normal." Anthony Kallet notes that teachers think of children who fall outside of the narrowly conceived normal band as being "problems," the result of which is often a self-fulfilling prophecy.⁶³

Other controls are more unobtrusive but nevertheless damaging. The injudicious use of a student's past records is a case in point. Kohl speaks of a teacher speaking to a new student. "You're off to a good start this year." The

⁶²Ibid., p. 145.

⁶³Rathbone, op. cit., p. 27.

implication for the student is that a poor start was expected. Attempts toward homogeneous grouping have a similar effect. Disguises seldom work. "Bluebirds" know what is expected of them and tend not to perform above expectations.⁶⁴

Open educators are also adamant toward schools which are obsessed with controls of talking and movement. They reject the implication that learning is passive. Silberman notes, "The cardinal sin, strange as it may seem in an institution of learning, is talking."⁶⁵ He tells of an experience during a school visitation to secure information for his book.

In lecturing the assembled students on the need for and virtue of absolute silence, an elementary school principal expostulates on the wonders of a school for the "deaf and dumb" he had recently visited. The silence was just wonderful, he tells the assembly; the children could all get their work done because of the total silence. The goal is explicit: to turn normal children into youngsters behaving as though they were missing two of their faculties.⁶⁶

Control of time is another hallmark of traditional education to which open educators object. They view learning which starts and stops on cue from a bell as being unreal. Such tactics are considered to favor administrative efficiency rather than pedagogy. Rather than rely upon

⁶⁴Kohl, op. cit., pp. 17-19.

⁶⁵Silberman, op. cit., p. 145.

⁶⁶Ibid., p. 128.

spontaneity, learning is expected to take place when scheduled.⁶⁷

Schooling such as this produces a sub-culture in schools in which students have designed survival strategies. John Holt appears to be the foremost spokesman. His classroom observations offer insight as to what actually goes on in classrooms, not from a teacher's perspective but from the student's. Children's fear of being wrong has led to a variety of strategies. A common strategy is "minimax," which minimizes failure probability while maximizing chances for success. Students quickly learn to be sensitive for clues for the right answer guessing game. Teachers' questions and movements often provide clues. One wonders what causes such strategies. Holt offers an explanation.

. . . I find myself coming to realize that what hampers their thinking, what drives them into these narrow and defensive strategies, is a feeling that they must please the grownups at all costs. The really able thinkers in our class turn out to be, without exception, children who don't feel so strongly the need to please grownups. Some of them are good students, some not so good; but good or not, they don't work to please us, but to please themselves.

Here is Walter, just the opposite, very eager to do whatever people want him to do, and very good at doing it. (By conventional standards he was a very able pupil, so much so that people called him brilliant, which he most assuredly was not.)⁶⁸

Children may tend to believe they are in school so they won't be stupid when they grow up. Apparently they

⁶⁷Ibid., pp. 123-124.

⁶⁸Holt, How Children Fail, p. 40.

believe that only through the school can they be delivered from their stupidity. Such a low self-esteem results when children haven't been taught that history is filled with contributions from individuals without any formal education. It is most unfortunate that some students equate stupidity with ignorance. One can be ignorant of many facts and yet use a minimum of facts in a most intelligent manner.

Children have been led to believe that every question has an answer and the only good answer is a "yes" answer. They haven't been taught that "no" answers can be most valuable. The less successful students find relief in any answer even though they secretly suspect an error. The uncertainty is maddening. Holt contends that infants don't employ such defensive traits. He believes schools must assume the blame.

When I started, I thought that some people were just born smarter than others and that not much could be done about it. This seems to be the official line of most of the psychologists. It isn't hard to believe, if all your contacts with students are in the classroom or the psychological testing room. But if you live at a small school, seeing students in class, in the dorms, in their private lives, at their recreations, sports, and manual work, you can't escape the conclusion that some people are much smarter part of the time than they are at other times. Why? Why should a boy or girl, who under some circumstances is witty, observant, imaginative, analytical, in a word, intelligent, come into the classroom and, as if by magic, turn into a complete dolt?⁶⁹

Consequently, Holt urges student teachers to concentrate observations toward students rather than the

⁶⁹Ibid., pp. 25-26.

"master teacher." Only by watching students over a long period of time can a teacher really discover what is actually taking place in the classroom.

Schools and teachers seem generally to be as blind to children's strategies as I was. Otherwise, they would teach their courses and assign their tasks so that students who really thought about the meaning of the subject would have the best chance of succeeding, while those who tried to do the tasks by illegitimate means, without thinking or understanding, would be foiled. But the reverse seems to be the case. Schools give every encouragement to producers, the kids whose idea is to get "right answers" by any and all means. In a system that runs on "right answers," they can hardly help it. And these schools are often very discouraging places for thinkers.

Until recently it had not occurred to me that poor students thought differently about their work than good students; I assumed they thought the same way, only less skillfully. Now it begins to look as if the expectation and fear of failure, if strong enough, may lead children to act and think in a special way, to adopt strategies different from those of more confident children.⁷⁰

Holt suggests that teachers begin to see the school experience in the same perspective as the students. Students tend to concentrate on completing day to day tasks while the teacher has more of a global outlook.⁷¹ He argues that such narrow strategies are conceived in fear, boredom, and confusion.

They are afraid, above all else, of failing, of disappointing or displeasing the many anxious adults around them, whose limitless hopes and expectations for them hang over their heads like a cloud.

They are bored because the things they are given and told to do in school are so trivial, so dull, and

⁷⁰Ibid., p. 48.

⁷¹Ibid., p. 45.

make such limited and narrow demands on the wide spectrum of their intelligence, capabilities, and talents. They are confused because most of the torrent of words that pours over them in school makes little or no sense.⁷²

Evaluation

Open educators are united in their opposition to the grading procedures found in most schools. They differ in their choice of alternatives. John Holt is strongly opposed to the grading system. He compares the behavior of an infant against a school age child and suggests tests have damaging effects. Pre-school age children learn extremely well without formal tests. They employ self-testing procedures whereby comparisons are constantly made between one's performance and reality. The child compares his actions against older children and adults. He thus adjusts his behavior until he too has mastered his objective. Even when alone, the child constantly is experimenting and analyzing until the task is mastered. Holt challenges those who argue that child's play obviously does not require formal testing like high levels of learning. Both he and Goodman argue that humans learn to talk, which is an extremely difficult task, without the aid of formal testing.

There are teachers who contend their tests serve to assess learning whereby additional learning can be facilitated. Holt contends this justification is about 95% untrue. He sees tests being used to threaten children into improved

⁷²Ibid., p. 16.

discipline and greater learning. Holt also contends that grades are used to hand out rewards and punishments in keeping with the demands of the coercive educational system. If such a purpose is unavoidable, Holt believes the schools should be honest and admit to the public such is the case.⁷³

Postman and Weingartner support Holt's views by suggesting that grades "tend to pollute the learning environment." The authors ask why must grades be recorded and made public if indeed grades are necessary for learning. Grades tend to haunt students and damage self concept. As such, grades describe one's past but are a poor forecast of one's future.⁷⁴ Postman and Weingartner suggest that student grades should not be made public unless teacher evaluations likewise are made public.⁷⁵

Holt charges, "Tests arouse the fear and satisfy the greed." He also believes that students come to concentrate on the grade rather than on learning. The student-teacher relationship becomes a duel rather than a common search for truth. As such, "fair teachers" are those whose test questions are predictable.⁷⁶

⁷³Holt, The Underachieving School, pp. 53-55.

⁷⁴Neil Postman and Charles Weingartner, The Soft Revolution (New York: Dell Publishing Co., Inc., 1971), pp. 113-114.

⁷⁵Ibid., p. 114.

⁷⁶Holt, The Underachieving School, p. 56.

Ivan Illich also speaks out in support of Holt's views. Illich's views toward grades are likewise adamant.

The institutionalized values school instills are quantified ones. School initiates young people into a world where everything can be measured, including their imaginations, and, indeed, man himself.

But personal growth is not a measurable entity. It is growth in disciplined dissidence, which cannot be measured against any rod, or any curriculum, not compared to someone else's achievement.⁷⁷

Holt offers other criticisms of the grading system. He also opposes tests because they favor the guesser while penalizing the slower more analytical student. In addition, Holt questions whether tests accurately measure what they purport. Language limitations hamper test construction and interpretation. To avoid giving away answers a certain element of ambiguity tends to result. Even those tests which are purported to be objective contain an element of subjectivity in that it is at the teacher's discretion which questions are asked. Holt also objects to tests for they destroy self-reliance. Tests inhibit self-examination traits found displayed by an infant. Holt charges that it is most unfortunate when students must rely so much on their teacher for verification.⁷⁸

William Hull offers opposition to standardized tests. He contends standardized tests tend to become the classroom

⁷⁷Illich, op. cit., p. 57.

⁷⁸Holt, The Underachieving School, pp. 59-60.

dogma. As such, exploitation of students and teachers results. Learning suffers as priorities shift to preparation for tests rather than preparation for life. Competition results whereby comparisons are drawn to satisfy the narcissistic demands of the more able students and their parents. Hull writes about other effects caused by such educational "standards."

I have observed some of the changes taking place in a school where parents and teachers have become increasingly concerned about standards. It is very easy, in the absence of a compelling counter-example, to be caught up in a concern for a limited kind of academic excellence, a concern that manifests itself in setting carefully prescribed "production" schedules. A few people recognize that these schedules reflect standards meaningless to the child as he really is and are aware of how destructive they can be for children. Most educators, however, take them seriously and are ready to evaluate their own effectiveness as teachers, and that of their colleagues, on the basis of "objective" tests administered to the children after completing masses of detailed busy work.⁷⁹

John Holt sees much of schooling as miseducation. He describes how natural curiosity of childhood is destroyed by fear and confusion. Consequently, frustrated teachers come to develop strategies on how to motivate children as though motivation is not an inherent trait. Holt summarizes the educational establishment's failures in a compelling manner.

We encourage them to feel that the end and aim of all they do in school is nothing more than to get a good mark on a test, or to impress someone with what they seem to know. We kill, not only their

⁷⁹Rathbone, op. cit., pp. 43-44.

curiosity, but their feeling that it is a good and admirable thing to be curious, so that by the age of ten most of them will not ask questions, and will show a good deal of scorn for the few who do.

In many ways, we break down children's convictions that things make sense, or their hope that things may prove to make sense. We do it, first of all, by breaking up life into arbitrary and disconnected hunks of subject matter, which we then try to "integrate" by such artificial and irrelevant devices as having children sing Swiss folk songs while they are studying the geography of Switzerland, or do arithmetic problems about rail-splitting while they are studying the boyhood of Lincoln. Furthermore, we continually confront them with what is senseless, ambiguous, and contradictory; worse, we do it without knowing that we are doing it, so that, hearing nonsense shoved at them as if it were sense, they come to feel that the source of their confusion lies not in the material but in their own stupidity.⁸⁰

Not all open educators are as critical of evaluation as John Holt. Charles Silberman believes evaluation is important but must be more intelligently administered and interpreted.

What is wrong with the present system is not the use of grades per se, but the fact that the awarding of a grade has been divorced from the larger function of evaluation, thereby preventing it from fulfilling its proper educational purpose.

An evaluation is an important part of the teaching-learning process. Tests, examinations, term papers, projects, etc., are useful to students, teachers, and administrators alike. . . . But teachers and administrators rarely view examinations in these lights; if students do poorly, the reflection is on them, not on the teacher or the school.

Evaluation is even more important, of course, to the student himself. Tests should warn him when he is falling below minimum standards of performance. . . .

Schools rarely use tests for these purposes, either, except, perhaps, as a storm signal. It is

⁸⁰Holt, How Children Fail, p. 209.

a rare high school, for example, in which a student ever sees his final examination paper again, once he has handed it in; in most schools, there is no feedback at all. . . . The procedure thus makes it clear to students that the purpose of testing is not evaluation but rating -- to produce grades that enable the school to rank students and sort them in various ways for administrative purposes.⁸¹

Lesson Plans

Open educators also object to the frequent misuse of lesson plans. Herbert Kohl voices numerous oppositions to such use of lesson plans. He contends that lesson plans enforce an unnatural rigidity upon students as much as time schedules.⁸² Roland Barth augments Kohl's beliefs by suggesting in traditional education time is the child's master, not servant.⁸³ Silberman speaks of the lesson plan as a sort of contract to which the teacher feels a deep obligation. Deviations from the lesson plan to further altruistic purposes for students tend to result in teacher discomfort. It is as though getting off on a tangent is verboten. Silberman suggests that lesson plans provide teachers with security from decision making once the plan has been designed. As such, the lesson plan becomes tyrannical by mandating an obsession with routine.⁸⁴ John Holt asks that teachers

⁸¹Silberman, op. cit., pp. 347-348.

⁸²Kohl, op. cit., p. 48.

⁸³Rathbone, op. cit., p. 129.

⁸⁴Silberman, op. cit., p. 125.

cease thinking of the lesson plan as a sacred document.⁸⁵ Kohl discusses the effect of undue reliance upon the lesson plan as being a "teacher trap." He reminisces his first year of teaching by describing a conversation with a second year teacher. She tried to reassure him by suggesting "after the first year teaching is just like being a secretary."⁸⁶ Kohl summarizes his feeling about the regulation of time through the use of the lesson plan.

Time in most schools is considered a precious quantity, and teachers are upset when they feel time is wasted. But the conventional notion of "wasted time" is deceptive. In fact time is wasted in school by all sorts of things -- taking attendance, lining up, collecting papers, rehearsing rules and routines. It is also often wasted by going through material that bores everyone and is attended to only by pupils who are the most dependent on the teacher. . . . It is a fiction that students must follow a set number of procedures in a set time in order to learn to read, think, and make decisions, just as it is a fiction that babies learn to walk and talk by following a prescribed pattern.

There is no one way to learn, nor are there specific stories or experiments all young people must go through. The notion that learning is orderly and ought to be identical for all pupils is wrong and in many ways pernicious. It leads to the notion of remedial work -- i.e., the idea that students who have not followed the temporal sequence set by the teacher have somehow failed and need remedial attention. Remedy for what?⁸⁷

Silberman's views on the lesson plan appear to be representative of other open educators. He contends the

⁸⁵Holt, The Underachieving School, p. 99.

⁸⁶Kohl, op. cit., p. 28.

⁸⁷Ibid., p. 52.

teacher's use of lesson plans illustrates a confusion of means with ends.

All over the United States, that last week of November 1963, teachers reported the same complaint: "I can't get the children to concentrate on their work; all they want to do is talk about the assassination." The idea that the children might learn more from discussing President Kennedy's assassination -- or that like most adults, they were simply too obsessed with the horrible event to think about anything else -- simply didn't occur to these teachers. It wasn't in that week's lesson plan.⁸⁸

Training versus Education

Open educators voice opposition to traditional education which is narrowly conceived. Such is regarded as training rather than education. Training is viewed as the acquisition of facts and skills while education implies a reasoning ability to order one's life. Silberman writes of the futility of a narrow view of education.

Moreover, students need to learn far more than the basic skills. For children who may still be in the labor force in the year 2030, nothing could be more wildly impractical than an education designed to prepare them for specific vocations or professions or to facilitate their adjustment to the world as it is. To be "practical," an education should prepare them for work that does not yet exist and whose nature cannot even be imagined. This can only be done by teaching them how to learn, by giving them the kind of intellectual discipline that will enable them to apply man's accumulated wisdom to new problems as they arise -- the kind of wisdom that will enable them to recognize new problems as they arise. . . .

More important, education should prepare people not just to earn a living but to live a life -- a creative, humane, and sensitive life. This means that the schools must provide a liberal, humanizing education.⁸⁹

⁸⁸Silberman, op. cit., p. 124.

⁸⁹Ibid., pp. 113-114.

Presumably Silberman is not advocating a narrowly conceived liberal education lacking utilitarian value to which Sidney Marland objects. Marland argues against the "general curriculum" which he considers as depriving graduates from adequate preparation for adult life. Uncertainty over the proper preparation for as yet nonexistent occupations should not cause educators to acquiesce. Students deserve preparation for existing occupations as well as future occupations. Obsolete knowledge and skills become less of a problem if our society comes to see education as continuous. The social stigma attached to occupational retraining must cease as society comes to regard such retraining as a natural result of technology.⁹⁰

Facilities and Media

Open educators appear to be unanimous in their opposition to the present facilities and educational media commonly found in traditional schools. They object to static ostentatious classrooms with displays personally prepared by the teacher. An implied look-but-don't-touch reverence for displays severely limits media effectiveness. Open educators are also united in their opposition to furniture arrangements commonly found in schools. They contend that chairs all facing a teacher's desk strongly implies a student subservience to an authoritarian teacher. The companion

⁹⁰Keith Goldhammer and Robert E. Taylor, Career Education: Perspective and Promise (Columbus, Ohio: Charles E. Merrill Publishing Co., 1972), p. 35.

implication is that students are dependent upon the teacher as the source of information. Consequently, open educators ask why classrooms have fronts.⁹¹

Over reliance on textbooks and media "packages" is seen as a handicap for both teachers and students. John Holt charges that textbooks are bland results of conservative textbook selection committees. He alleges that textbooks avoid controversial topics so as not to cast our folk heroes and nation in bad light. Such distortions Holt suggests result in information management. Holt contends that over reliance on textbooks also limits teachers and students in much the same fashion as lesson plans. The textbook itself becomes a sacred lesson plan. Books become enemies which students seek to avoid. The discomfort from being forced to read aloud frustrates children. Mispronunciations lead to public ridicule. Consequently, children are driven from rather than toward books. Holt suggests teachers make students read aloud because there is lack of faith in student competence. He contends teachers are too anxious by correcting each student's mispronunciation. Students can read and enjoy books which are supposedly above their comprehension by simply skipping the difficult parts. In time their vocabulary will grow, and the difficult parts will become comprehensible. Holt contends that rather uncreative English teachers cause children to lose sight of the enjoyment and creative aspects of English as a tool of

⁹¹Kohl, op. cit., pp. 34-37.

communication. He suggests the mania for correct spelling be curtailed and that private themes be encouraged.⁹²

William Hull believes that increased monies for educational packages have brought mixed blessings. Workbooks, for example, make efficient use of time, but students come to see completion of the tasks as ends rather than as means. Likewise, students and teachers come to depend upon workbooks and lose a sense of self-direction. Verification of truth consequently comes from the succeeding pages in programmed instruction booklets. In effect, instructional media are closed ended so as to ultimately lead students to predetermined truth. Open educators resent such an element of coercion.⁹³

Postman and Weingartner voice opposition to those educators who have viewed educational media as a panacea to solve educational ills.

Such people depend heavily on the continuing irrelevance of most school curricula. But this is not to say that they oppose educational innovation. On the contrary. They usually can be relied upon to give unflagging support to instructional television, team teaching, green chalk boards, movable chairs, more textbooks, teaching machines, the use of overhead projectors, and other innovations that play no role in effecting significant learning. Operating in these matters is a kind of variation of Parkinson's Law of Triviality: The enthusiasm that community leaders display for an educational innovation is in inverse proportion to its significance to the learning process.⁹⁴

⁹²Holt, The Underachieving School, pp. 84-91.

⁹³Rathbone, op. cit., p. 48.

⁹⁴Postman and Weingartner, Teaching as a Subversive Activity, p. 57.

Charles Silberman agrees with Postman and Weingartner by lamenting the results when any form of media is considered "only a pipeline." Not to observe the demands and employ the uniquenesses of media is to invite disaster. Failures inherent to the media occur less frequently than inferior human decision making.⁹⁵ Apparently teachers still resist and fear media. Holt notes a speaker who chides his audiences with, "Any teacher who can be replaced by a machine should be."⁹⁶

William Hull calls attention to yet another facet of curriculum reform. He contends that such reform is desirable but may be superficial if it ignores more pervasive ramifications. Even well intended curriculum reform tends to become short lived if support is not universal. Attitudes must change as well as content. Hull believes the use of curriculum specialists is admirable but may lead to the danger of isolation.

Curriculum reform will amount to very little, however, if it is bounded by the assumption that the specialist's job is to set out the content in well organized form so that it may then be taught by determined teachers.⁹⁷

It appears open educators are taking a wait and see attitude toward computer assisted instruction (CAI). Present economic limitations cause CAI to assume an all but

⁹⁵Silberman, op. cit., p. 165.

⁹⁶Holt, The Underachieving School, p. 189.

⁹⁷Rathbone, op. cit., p. 57.

negligible influence on education. Nevertheless, open educators are aware of the individual instruction claims of CAI proponents. There is fear that individualized instruction may be viewed in a narrow context. Silberman cautions against the seemingly inherent limitations of the present generation of computers.

In short, what is crucial to the system called Individually Prescribed Instruction is not the adjective "individually" but the verb "prescribed"; and what the individual does must be prescribed in terms so narrow as to leave no room whatsoever for the exercise of individuality. The system simply cannot accommodate a student who wants to strike out on his own. If any number of students attempted to do so -- if, for example, they decided to satisfy their curiosity about American history by reading everything they could find in their school or home or local public library instead of limiting themselves to the prepared programs, the whole system would break down!⁹⁸

Another concern is expressed that CAI may lead to more student docility. Open educators are already upset over the existing passive school environment, which may be compounded by individually prescribed instruction (IPI).

Indeed, the approach to instructional technology that most researchers are following is likely to compound what is most wrong with American education -- its failure to develop sensitive, autonomous, thinking, humane individuals. To program a computer, for example, one must define the instructional objectives in precise, measurable, "behavioral" terms; one must be able to specify the "behavior" to be produced with far greater precision than is needed in the conventional classroom.⁹⁹

⁹⁸Silberman, op. cit., p. 200.

⁹⁹Ibid., p. 196.

The result -- the ultimate irony -- is that IPI forces students to a passive, almost docile, role under the name of individualization.¹⁰⁰

Limitations inherent by the mechanistic nature of the computer may encourage CAI to foster training but disregard greater responsibilities for education. The early warnings of William James concerning dangers of short term observations are seen by Silberman as being applicable to CAI. Silberman warned that CAI tends to cater to training while disregarding education.

In education, on the other hand, the student's achievement is defined by what he does -- and he is -- after the lessons have all ended. . . .

Education can, and almost certainly should, include training; in almost every field, there are skills that have to be mastered, concepts that have to be learned. But the converse does not hold; education cannot be subsumed under training.¹⁰¹

Silberman believes that more efficient use of time is not the most pressing problem facing education.

Our most pressing educational problem, in short, is not how to increase the efficiency of the schools; it is how to create and maintain a humane society. A society whose schools are inhumane is not likely to be humane itself.¹⁰²

British Primary Schools

Impetus for a rebirth in educational reform appears to have occurred in the United States from two sources, disenchantment with traditional education already discussed and

¹⁰⁰Ibid., p. 201.

¹⁰¹Ibid., p. 202.

¹⁰²Ibid., p. 203.

informal education practices existing in England. Awareness of the British informal schools was provided by Joseph Featherstone's series of New Republic magazine articles in 1967 and Charles Silberman's Crisis in the Classroom, which was published in 1970. A. S. Neill's Summerhill seems to have been the only link between most American educators and English educational reform prior to the late 1960's.¹⁰³

English educational reform is known by a number of terms which include "informal education," "integrated curriculum," "free school," "open school," and "Leicestershire Plan." "Informal education" appears to be the most popular British term having a similar meaning as the American term, "open education." Informal education is largely confined to the infant schools for five through seven year olds and the junior schools for eight through eleven year olds. British secondary schools tend to remain traditional. Approximately one third of the infant schools throughout England are influenced by informal education principles with about 25% directly participating. The junior schools for older children have not adopted informal education as extensively as the infant schools.¹⁰⁴

Informal education has been rather extensively practiced in Leicestershire County for many years. Thus

¹⁰³Vito Perrone, Open Education: Promise and Problems (Bloomington: The Phi Delta Kappa Educational Foundation, 1972), pp. 10-12.

¹⁰⁴Silberman, op. cit., pp. 207-213.

visitors from the United States who promote open education have come to look upon Leicestershire as a demonstration model for the practicability of open education. The size and tenure of the Leicestershire program is sufficient so as to be suggestive of implementation elsewhere.

Unlike the United States, informal education, as akin to progressive education, has enjoyed a long uninterrupted life. Informal education in England goes back at least to the early 1930's when progressive education was at a high ebb in the United States. For a variety of reasons, informal education did not suffer the same fate as progressive education. Silberman suggests that English colleges of education have supported educational reform to a greater extent than that found in the United States.¹⁰⁵ He also brings up other interesting influences which fostered informal education. Upward social mobility has been less available in England. Thus schools have been rather immune from pressures from parents seeing schools as corridors to success. As a result control of English schools has been left to educators. Autonomy has also been fostered by centralized control. Unlike American schools the British deliberately avoid large schools. They prefer elementary schools to have enrollments between 100 and 300.¹⁰⁶ Also, by a strange quirk World War II encouraged informal education

¹⁰⁵Ibid., p. 280.

¹⁰⁶Ibid., p. 275.

by forcing teachers and students to live together as evacuees during bombing attacks. Teachers were thus able to observe children over greater periods of time and thereby have a greater understanding of learning.¹⁰⁷

Administration of British schools differs considerably from our schools. British administrators serving a role comparable to our principals are known as heads. The centralized administration of British schools provides heads with autonomy of which principals would envy. Such an autonomy is furthered by the public's benign neglect of the schools. Therefore heads have been able to devote their energies to education rather than public appeasement. Heads tend to be recruited for their high degree of teaching competence and thus enjoy teaching as frequently as possible. It is not unusual, therefore, that heads try to minimize administrative duties to enable them to devote up to 75% of their time to teaching. By their actions heads demonstrate a belief that nearly anyone can administer but teaching is an art to be respected. As a result heads encourage a team teaching approach rather than an academic pecking order. Students thus benefit from a head providing individualized instruction while in the same room the regular teacher assists other children. Consequently, classroom isolation gives way to a greater sense of community.¹⁰⁸

¹⁰⁷Ibid., pp. 213-214.

¹⁰⁸Ibid., pp. 273-277.

British schools receive an ancillary service from the HMI (Her Majesty's Inspectors), which have no comparable equal in the United States. Until the beginning of this century the HMI were used as inspectors to administer and supervise national tests from which payments to local schools resulted. Schools took on a uniformity as teachers became obsessed with test preparation rather than education. Silberman draws an interesting comparison between the British standardized tests and the move in the United States whereby schools contract with firms for "payment for results." The British dropped their version of the system as undesirable over seventy years ago. Now the HMI serve as advisors rather than inspectors. As such, the HMI perform a highly valuable in-service training function by being able to share their experiences as they visit throughout the country. Teachers have come to trust the HMI as not being part of a spy network for judging teacher performance. Inasmuch as HMI cannot order heads to make changes, the more effective method of gentle persuasion is employed.¹⁰⁹

England's Hadow Report of 1934 formalized many informal education principles by interpreting educational psychology.¹¹⁰ One sentence from the report provides insight into its essence. "The curriculum is to be thought of in terms of activity and experience rather than of knowledge to

¹⁰⁹Ibid., pp. 273-279.

¹¹⁰Ibid., p. 214.

be acquired and facts to be stored." Charles Rathbone reacts to the possibility of misinterpretation of the Hadow Report.

Read in isolation, the passage has sometimes been taken to imply that children could not learn from imaginative experience and that activity and experience did not lead to the acquisition of knowledge. The context makes it plain that the actual implication is almost the opposite of this. It is that activity and experience, both physical and mental, are often the best means of gaining knowledge and acquiring facts. This is more generally recognized today but still needs to be said. We certainly would not wish to undervalue knowledge and facts, but facts are best retained when they are used and understood, when right attitudes to learning are created, when children learn to learn. Instruction in many primary schools continues to bewilder children because it outruns their experience.¹¹¹

Educators seeking reform have come to look upon the British report from the Central Advisory Council for Education as the hallmark of informal education. Published in 1966, the report has come to be known as the Plowden Report by being named for Lady Bridget Plowden, who served as committee chairman. The Plowden Report serves to identify beliefs and establish goals for informal education. Several excerpts from the Plowden Report serve to demonstrate the spirit and beliefs of informal education.

A school is not merely a teaching shop, it must transmit values and attitudes. It is a community in which children learn to live first and foremost as children and not as future adults. In family life children learn to live with people of all ages. The school sets out deliberately to devise the right environment for children, to allow them to be themselves and to develop in the way and at the pace

¹¹¹Rathbone, op. cit., pp. 142-143.

appropriate to them. . . . It insists that knowledge does not fall into neatly separate compartments . . . 112

Society is right to expect that importance will be attached to these virtues in all schools. Children need them and need knowledge, if they are to gain satisfaction from their education. What we repudiate is the view that they were automatically fostered by the old kind of elementary education.113

England's National Union of Teachers published a reaction to the Plowden Report. The Union virtually represents all the primary teachers throughout the country. Their reception was quite positive toward the Plowden Report.

Moreover, and most importantly, we believe that both the needs of our children and the needs of the country as a whole, demand no less than the implementation of the Report, subject only to such modifications, and we trust that the Secretary of State will use all his best endeavours to secure from his Cabinet colleagues the financial resources to enable this to be carried out without delay.114

Visitors to the Leicestershire primary school are impressed. Silberman describes his visits.

To begin with, the classroom does not look like a classroom. It is, rather, a workshop in which "interest areas" take the place of the familiar rows of desks and chairs . . .

112Central Advisory Council for Education (England), Children and Their Primary Schools, Vol. I: The Report, A Report Prepared by the Central Advisory Council for Education (England) Commonly Known as the Plowden Report (London: Her Majesty's Stationery Office, 1967), p. 187.

113Ibid., p. 188.

114National Union of Teachers, Plowden/the Union's Comments on Some of the Major Issues of the Plowden Report, A Report Prepared by the National Union of Teachers (London: Hamilton House, 1969), p. 2.

In any case, not even the most informal American kindergartens . . . have the incredible richness and variety of materials found in the average informal English infant or junior school classroom.¹¹⁵

Indeed, a visitor accustomed only to formal classrooms is likely to be disoriented by the sound and movement of an informal classroom even more than by its physical arrangements.¹¹⁶

She seems always to be in motion, and always to be in contact with the children -- talking, listening, watching, comforting, chiding, suggesting, encouraging -- although from time to time she stops for a minute to jot down a comment in the record book she keeps for each child . . .¹¹⁷

What impresses an American the most, however, is the combination of great joy and spontaneity and activity with equally great self-control and order. The joyfulness is pervasive: in almost every classroom visited, virtually every child appeared happy and engaged. One simply does not see bored or restless or unhappy youngsters, or youngsters with the glazed look so common in American schools.

The joy is matched by an equally impressive self-discipline and relaxed self-confidence. . . . It is not the children who are disruptive, it is the formal classroom that is disruptive -- of childhood itself.¹¹⁸

The children's self-discipline and self-direction is accompanied by a relaxed and easy self-confidence; everywhere I went, the children were open and friendly without being brash.¹¹⁹

Informal educators see play as a great learning facilitator for young children. They contend that play is the work of childhood by which children are able to order

¹¹⁵Silberman, op. cit., p. 221.

¹¹⁶Ibid., p. 223.

¹¹⁷Ibid., p. 225.

¹¹⁸Ibid., pp. 228-229.

¹¹⁹Ibid., p. 235.

their lives, their relationships, and their world. "Messing about" provides experiences for children to explore the creative possibilities available in materials.¹²⁰

It would be totally inaccurate to imply that informal educators simply supervise play as children "do their own thing." Silberman emphasizes it would be a mistake to assume informal educators feel one piece of learning is as valuable as another. Silberman suggests that informal educators reject John Holt's "romantic notion" that children should be turned completely free to learn whatever they wish.¹²¹ Informal educators see themselves as facilitators rather than educational taskmasters. As such, informal educators do not insist that all students learn exactly the same thing by the same methods at the same time. Flexibility and respect for students are central to informal education. Learning is viewed as being natural, and through guidance children are assisted in discovering more about their world. To this end teachers create classroom environments with an incredible wealth of resources. It is not uncommon for activities to spill over into hallways and other available areas. Also there is little need for each child to have a seat and desk. Informal educators also frequently take their students on field trips. Silberman notes that informal educators maximize unplanned activities in an

¹²⁰Rathbone, op. cit., pp. 139-142.

¹²¹Silberman, op. cit., pp. 210-211.

environment which they created. He summarizes informal educators' attitudes toward the curriculum.¹²²

And so most informal teachers and heads also reject the view that "one piece of learning is as good as any other." Their responsibility, as they see it, is to create an environment that will stimulate children's interest in and evoke their curiosity about all the things they should be interested in and curious about: reading, writing, talking, counting, weighing, measuring; art, music, dance, sculpture; the beauty and wonder of the world about them; relationships with adults and with other children; and above all, the process of learning itself.¹²³

It appears that informal educators believe children need to learn many of the same things which traditional educators seek, but informal educators have developed entirely different approaches due to unique attitudes toward children. At times the methods are quite similar. For example, many informal educators utilize drill when appropriate.¹²⁴ It should be emphasized, however, that informal educators desire materials and methods, such as the Diene's laboratory sequences and Madison Project mathematics, which are open-ended. Materials and methods which stimulate further inquiry and unexpected questioning are considered more valuable than techniques incorporating pre-planned answers.¹²⁵ The message is clear that informal educators view children's learning and motivation as being a natural phenomenon not requiring adult intervention.

¹²²Ibid., pp. 237-240.

¹²³Ibid., p. 240.

¹²⁴Ibid., p. 244.

¹²⁵Rathbone, op. cit., pp. 48-51.

To realize their goals, Leicestershire primary schools utilize two complementary tactics, family grouping and the integrated day. Reminiscent of the old American one room school house, family grouping involves children of different ages learning together and teaching each other. Implicit in such an arrangement is the belief that teaching and learning are not vertical processes but rather lateral. Margaret Mead's belief that our society is now too complex to rely upon vertical transmission is interpreted by Silberman as being central in informal education.¹²⁶ Family grouping also means that a child will likely have the same teacher as long as he is enrolled in a particular school. Therefore teachers have a better opportunity to know their students as individuals. To simply know the name of each child is not enough.¹²⁷

The integrated day is a reaction against the traditional time table regulation. The traditional scheduling of disciplines is broken down as children integrate various disciplines as activities and situations evolve. It is not uncommon for children to remain with a particular study for half a day or longer provided their interest is maintained. Such flexibility is not structured and pre-planned in the

¹²⁶Silberman, op. cit., p. 30.

¹²⁷Rathbone, op. cit., p. 52.

same context as modular scheduling. In other words, informal educators capitalize on serendipity.¹²⁸

Great importance is attached to the arts and physical education as well as the familiar 3 R's. The arts are viewed in a very broad interpretation including crafts and woodworking. Informal educators believe a child's education is incomplete if only the 3 R's are studied.¹²⁹

Another activity unique to British primary schools is Movement which resembles an integration of dance, drama, and physical education. The objective of Movement is to develop an aesthetic sensitivity in children.

In its most fundamental sense, Movement is an attempt to educate children in the use of their bodies -- to provide them with an ease, grace, and agility of bodily movement that can carry over into sports, crafts, and dance. . . .

The procedure is a fascinating blend of formal and informal instruction. As a rule, an entire class participates under the teacher's direction; but precisely how the teacher's directions are carried out is left to each child. There is, after all, no right way or wrong way to move as if you were a snowflake, or a leaf fluttering down from a tree, which are the kinds of things children may be asked to do.¹³⁰

The advocates of Movement are persuaded that the activity has a profound effect on other activities. "You don't dance to get rid of something, you dance to be aware of something," Martha Graham says, and the awareness that Movement evokes seems to carry over into the children's writing, painting, and sculpture.¹³¹

¹²⁸Mary Brown and Norman Precious, The Integrated Day in the Primary School (New York: Ballantine Books, Inc., 1973), pp. 3-17.

¹²⁹Silberman, op. cit., p. 251.

¹³⁰Ibid., pp. 253-254.

¹³¹Ibid., p. 255.

One of the integral elements of British education has for many years been the 11+ exam which students took upon the completion of junior schools. Results from the 11+ exam determined which students went on to receive college preparation in secondary schools. Educators have come to see in the 11+ exam an undesirable influence, as teachers tended to prepare their students for the exam rather than emphasize more important matters. In effect the 11+ was designed to serve as a means but had become an end in itself. Consequently, many schools have begun eliminating the 11+ exam.¹³²

An extension from the abolition of the 11+ exam is an implementation of a two-tier secondary program in Leicestershire. The Leicestershire Plan replaced the previous dual secondary school system. Schools outside the Leicestershire Plan provide high status grammar schools for children scoring high on the 11+ exam and offer the lesser prestigious secondary modern school for less fortunate students. The Leicestershire Plan is two-tier in that without the 11+ exam students enter comprehensive high schools for two years which is then followed by a grammar school utilizing a new meaning. Consequently, enrollments are kept low by dividing secondary education into two-tiers which pleases English educators who prefer schools being more personal. While the Leicestershire Plan represents

¹³²Ibid., p. 231.

secondary level innovation, informal education appears to lack the clout found common in primary schools.¹³³

The question of evaluation arises as the British informal schools are compared with traditional schools. Comparative testing has not been as thorough as one might wish. Keeping in mind the expanding influence of informal education, the Plowden Report provides implications to the reader.

Successive investigations into reading ability undertaken by the Department of Education from 1948 to 1964 . . . , make it clear that, despite the dismal reports that appear from time to time in the press, the standard of reading in the country as a whole has been going up steadily since the war. Children of eleven have advanced by an average of 17 months since the first report was made, and backwardness now has a different connotation from that which it had in 1948.¹³⁴

Silberman discusses studies by Professor Lovell and Dorothy Gardner. Lovell compared matched groups of students from informal and formal schools. Lovell's conclusions neither give strong support nor criticize informal education.

"Overall there is no evidence whatever of any deterioration of reading standards in informal Junior Schools. Although there is no evidence that these schools bring superior standards in reading," Professor Lovell continues, "they may well benefit their pupils in other ways."¹³⁵

¹³³Rathbone, op. cit., pp. 40-42.

¹³⁴Central Advisory Council for Education (England), op. cit., p. 212.

¹³⁵Silberman, op. cit., pp. 258-259.

Miss Gardner's study provided results which suggested informal education students were stronger than formal education students in reading, persistence, general information, handwriting, and cooperative behavior. Students from traditional schools were found to be stronger in arithmetic. Silberman suggests that the introduction of the Nuffield Math Project since 1963 may shift the balance toward informal education. Other results were rather interesting.

Some of the most interesting differences among the two groups in the Gardner study showed up not in the test results themselves but in what the testers had to report about the way children went about taking the tests. . . . These kinds of differences showed up in a great many tests; in general, children from informal schools were more relaxed, showed less anxiety and more initiative, independence, and self-confidence, and had an easier relationship with their peers and with the testers.¹³⁶

William Hull notes that when students move from the Leicestershire schools to another district requiring the 11+ exam, usually little difficulty is encountered. A short period of review and special preparation is usually adequate. Such a rough measure suggests that students studying in informal schools are to no particular disadvantage even when compared with students studying in formal schools which are alleged to center around the 11+ exam.¹³⁷

Silberman identifies the criticisms by formal education as illuminating the extent of basic disagreements over the purpose of education.

¹³⁶Ibid., p. 261.

¹³⁷Rathbone, op. cit., p. 55.

Nowhere is this revealed more clearly than in the grounds on which the opponents of informal education have attacked the primary schools. "The new fashionable anarchy," as one group of polemicists call the informal approach, "flies in the face of human nature, for it holds that children and students will work from natural inclination rather than the desire for reward." This is precisely what informal educators do believe; . . . and therefore refuse to see their role as training people to fill the existing slots in society and the economy.¹³⁸

Industrial educators may find a great similarity between Silberman's foregoing quote and recent statements by Rupert Evans. It is Evans' contention that vocational education must place its first priority on individual needs rather than on industrial manpower needs. Evans wrote, "The objective of vocational education should be the development of the individual, not the needs of the labor market."¹³⁹

The general tenor from American open educators is that the British informal schools have developed attitudes and practices which may alleviate the shortcomings of American schools. William Hull summarizes his impressions after visiting Leicestershire schools and draws several comparisons against traditional American schools.

One quickly comes to assume that primary education everywhere would have evolved along similar lines

¹³⁸Silberman, op. cit., pp. 231-232.

¹³⁹Rupert N. Evans, Garth L. Mangum, and Otto Pragan, Education for Employment: the background and potential of the 1968 vocational education amendments (Ann Arbor, Michigan: Institute of Labor and Industrial Relations, University of Michigan and Wayne State University, 1969), p. 64.

were it not crippled by false values and assumptions.¹⁴⁰

Leicestershire helps Americans to see just how sick their schools really are.¹⁴¹

Charles Silberman's summary of the British informal schools appears to be representative of the views of other open educators.

Central to the informal English primary schools, then, is a view of childhood as something precious in its own right, something to be cherished for itself and not merely as preparation for later life: there is a quality of caring, a concern for children *qua* children, that tends to be missing in American schools. It is not that Americans like children less -- certainly we indulge them more -- but rather that we tend to see childhood as a corridor through which children should pass as rapidly as possible on the way to adulthood. Hence our schools are designed not to let children be children, but to speed them on the way to adult life.¹⁴²

Open Education in the United States

It is not surprising to find that open education in the United States adopts principles of British informal education. Silberman contends, however, that it would be a mistake for the United States to transplant in toto the British version of informal education. Inasmuch as informal education is more an attitude toward education rather than a method, no well defined model is available to be brought to our country. British informal educators try to avoid allowing informal education to become a dogma used to

¹⁴⁰Rathbone, op. cit., p. 31.

¹⁴¹Ibid., p. 57.

¹⁴²Silberman, op. cit., p. 230.

replace traditional dogma. Therefore it is not surprising to find informal educators according themselves flexibility comparable to that enjoyed by their students. One who believes there are numerous ways to learn is disposed to feel there are numerous ways to teach. In other words, informal education is not a paradigm to be standardized.

Silberman offers an even more overriding argument against an unaltered informal education transplant to the United States. Inasmuch as informal education has developed within the British culture, it would be inappropriate to introduce informal education to the United States without alterations to better reflect American cultural differences.¹⁴³

One is disposed to ask how open education differs from progressive education and how open education hopes to succeed while progressive education failed. Insight into progressive education is amply provided by Lawrence Cremin's The Transformation of the Schools, which is a most exhaustive and scholarly investigation of progressive education. Cremin clearly disagrees that progressive education failed. He contends that while progressive education submerged, its impact upon education remains profound.¹⁴⁴ Open educators tend to avoid comparisons between open education and progressive education. The infrequent analyzations of progressive education shortcomings are often simplistic. John

¹⁴³Ibid., p. 272.

¹⁴⁴Lawrence A. Cremin, The Transformation of the School (New York: Vintage Books, 1964), pp. 352-353.

Holt believes progressive education failed because it tried to discreetly coerce children into predetermined learning.

The would-be progressives, who until recently had great influence over most American public school education, did not recognize this -- and still do not. They thought, or at least talked and wrote as if they thought, that there were good ways and bad ways to coerce children (the bad ones mean, harsh, cruel, the good ones gentle, persuasive, subtle, kindly), and that if they avoided the bad and stuck to the good they would do no harm. This was one of their greatest mistakes, and the main reason why the revolution they hoped to accomplish never took hold.

The idea of painless, non-threatening coercion is an illusion. Fear is the inseparable companion of coercion, and its inescapable consequence. If you think it your duty to make children do what you want, whether they will or not, then it follows inexorably that you must make them afraid of what will happen to them if they don't do what you want. You can do this in the old-fashioned way, openly and avowedly, with the threat of harsh words, infringement of liberty, or physical punishment. Or you can do it in the modern way, subtly, smoothly, quietly, by withholding the acceptance and approval which you and others have trained the children to depend on; or by making them feel that some retribution awaits them in the future, too vague to imagine but too implacable to escape.¹⁴⁵

Cremin believes the demise of the progressive education movement was much more complex than that suggested by Holt. Seven reasons for the decline of progressive education are advanced by Cremin. He suggests that progressive education was damaged by being distorted by various competing factions. Another detriment arose from greater attention to what progressives opposed rather than to what they proposed. Cremin also suggests that "integrated studies" demanded more knowledge and time than most teachers could

¹⁴⁵Holt, How Children Fail, pp. 221-222.

provide. He also suggests progressives suffered "intellectual bankruptcy" by being unable to formulate successive plans. The postwar swing to conservatism also hindered progressive education. During the 1930's progressive educators severely hurt their cause by solely concentrating on professional support while ignoring the public. However, Cremin suggests that the most serious shortcoming of progressive education was an inability to recognize and adapt to the dramatic postwar social changes. The phenomenal knowledge explosion brought demands that the schools return to being the transmitters of knowledge.¹⁴⁶

Silberman is well aware of Cremin's study and appears to offer a rational explanation of the shortcomings of progressive education. It is Silberman's contention that progressive educators were trapped by the Either-Or fallacy of which John Dewey warned. Silberman explains progressive educators failed by believing schools must either be child-centered or subject-centered.¹⁴⁷

Numerous open educators look upon their mission as fostering a legitimate version of progressive education. William Hull writes of the British informal schools, "What seems to have been achieved in some of these schools is the logical extension and development of ideas tried in the United States by a few schools during the era of

¹⁴⁶Cremin, op. cit., pp. 348-352.

¹⁴⁷Silberman, op. cit., p. 180.

progressive education."¹⁴⁸ One senses in certain authors subtle clues suggesting their intent as not being an advocate of the weaknesses of progressive education. Rather clearly open educators desire implementation of only the best of progressive education by utilizing recent information gleaned through educational psychology. A statement by Postman and Weingartner is a case in point.

There is no way to help a learner to be disciplined, active, and thoroughly engaged unless he perceives a problem to be a problem or whatever is to-be-learned as worth learning, and unless he plays an active role in determining the process of solution. That is the plain, unvarnished truth, and if it sounds like warmed-over "progressive education," it is not any less true for it.¹⁴⁹

Silberman provides his reader with a comparison between British informal education and progressive education. Presumably one can infer open educators subscribe to the same beliefs in this matter as their British counterparts.

What chiefly distinguishes the contemporary English informal schools, then, from the American child-centered progressive schools of the 1920s and '30s, which they resemble in many ways, or from the kind of education that romantic critics like John Holt, George Dennison, and Paul Goodman now advocate, is the absolute clarity of this understanding, the hard-headed recognition of and indeed insistence on the teacher's central role. . . . It would be impossible for a teacher acting in accord with the Plowden Report to respond as a teacher in New York's Walden School, one of the citadels of American progressivism, did in the 1920's. Asked if he were the teacher, the young man, who was standing with his back to the room,

¹⁴⁸Rathbone, op. cit., p. 31.

¹⁴⁹Postman and Weingartner, Teaching as a Subversive Activity, p. 52.

speaking only when children addressed a question to him, replied, "Well, you can call me that; at least I'm here." . . .

With rare exceptions, the teachers and administrators with whom I talked and whose informal classrooms I observed were more than simply "here"; they were very much in charge. "It's easy to be a sweet nothing and just say, 'Oh, that's nice,'" one London "head" (headmistress) remarked, "but we are here to teach, not just to let children discover."¹⁵⁰

What is open education? Even among its advocates a variety of explanation prevail. Certain educators who proclaim themselves open educators devote themselves to writing about the appearance of open classrooms. Open education is debased if only thought of in terms of architecture. Indeed, open education can occur in the most unlikely places. An observation by Silberman makes it abundantly clear that British informal education does not thrive because of architecture.

The buildings in which these "new" schools are housed also run the gamut from spanking-new one-story glass-enclosed buildings designed specifically for informal education, to dark and dank three-story buildings erected in Queen Victoria's reign and designed for the most rigid formal schooling.¹⁵¹

Theoretical Basis of Open Education

The essence of open education is deeper. Roland Barth suggests that open education begins with a system of beliefs toward learning and knowledge. Twenty-nine such assumptions were developed by Barth. He has asked informal

¹⁵⁰Silberman, op. cit., pp. 209-210.

¹⁵¹Ibid., pp. 212-213.

educators in England and open educators in the United States whom he has met to respond to these assumptions. Barth contends that given a five point Likert option, participants have always answered strongly agree or agree to all twenty-nine assumptions.¹⁵² Moreover, John Holt gives his endorsement to Barth's assumptions.¹⁵³ Following are the twenty-nine assumptions developed by Barth.

Assumption 1: Children are innately curious and will explore their environment without adult intervention.

Assumption 2: Exploratory behavior is self-perpetuating.

Assumption 3: The child will display natural exploratory behavior if he is not threatened.

Assumption 4: Confidence in self is highly related to capacity for learning and for making important choices affecting one's learning.

Assumption 5: Active exploration in a rich environment, offering a wide array of manipulative materials, will facilitate children's learning.

Assumption 6: Play is not distinguished from work as the predominant mode of learning in early childhood.

Assumption 7: Children have both the competence and the right to make significant decisions concerning their own learning.

Assumption 8: Children will be likely to learn if they are given considerable choice in the selection of the materials they wish to work with and in the choice of questions they wish to pursue with respect to those materials.

Assumption 9: Given the opportunity, children will choose to engage in activities which will be of high interest to them.

¹⁵²Telephone interview with Dr. Roland Barth, Principal, Angier School, Newton, Mass., Jan. 20, 1972.

¹⁵³Rathbone, op. cit., p. 3.

Assumption 10: If a child is fully involved in and is having fun with an activity, learning is taking place.

Assumption 11: When two or more children are interested in exploring the same problem or the same materials, they will often choose to collaborate in some way.

Assumption 12: When a child learns something which is important to him, he will wish to share it with others.

Assumption 13: Concept formation proceeds very slowly.

Assumption 14: Children learn and develop intellectually not only at their own rate but in their own style.

Assumption 15: Children pass through similar stages of intellectual development, each in his own way and at his own rate and in his own time.

Assumption 16: Intellectual growth and development take place through a sequence of concrete experiences followed by abstractions.

Assumption 17: Verbal abstractions should follow direct experience with objects and ideas, not precede them or substitute for them.

Assumption 18: The preferred source of verification for a child's solution to a problem comes through the materials he is working with.

Assumption 19: Errors are necessarily a part of the learning process; they are to be expected and even desired, for they contain information essential for further learning.

Assumption 20: Those qualities of a person's learning which can be carefully measured are not necessarily the most important.

Assumption 21: Objective measures of performance may have a negative effect upon learning.

Assumption 22: Learning is best assessed intuitively, by direct observation.

Assumption 23: The best way of evaluating the effect of the school experience on the child is to observe him over a long period of time.

Assumption 24: The best measure of a child's work is his work.

Assumption 25: The quality of being is more important than the quality of knowing; knowledge is a means of education, not its end. The final test of an education is what a man is, not what he knows.

Assumption 26: Knowledge is a function of one's personal integration of experience and therefore does not fall into nearly separate categories or "disciplines."

Assumption 27: The structure of knowledge is personal and idiosyncratic; it is a function of the synthesis of each individual's experience with the world.

Assumption 28: Little or no knowledge exists which it is essential for everyone to acquire.

Assumption 29: It is possible, even likely, that an individual may learn and possess knowledge of a phenomenon and yet be unable to display it publicly. Knowledge resides with the knower, not in its public expression.¹⁵⁴

In another publication Barth elaborates on his interpretation of many of the assumptions. Regarding the first two assumptions on motivation, Barth suggests that adult intervention might increase production but not greater learning. Motivation is viewed as an interaction between the child and his environment which does not automatically require adults to be interpreters or motivators.¹⁵⁵

Assumptions three through ten are considered as being factors of conditions for learning. Barth emphasizes the importance of self concept and its effect on learning. He also suggests that the distinction between children's

¹⁵⁴Barth, op. cit., pp. 98-99.

¹⁵⁵Rathbone, op. cit., pp. 119-120.

play and work is an "adult artifact." Following assumption ten, Barth discusses the crucial matter of coercion and classroom environment manipulation. He notes that although the large variety of classroom materials suggests freedom, manipulation occurs by the selection process as each teacher equips his or her classroom. Total freedom could only result when the classroom is abandoned in favor of the community. Barth suggests that material selection criteria for open education is undecided and requires further attention.¹⁵⁶

Barth considers assumptions eleven and twelve as being factors of social learning. He suggests that open educators acknowledge interaction between students as being teacher-student interaction. Such considerations would be reflected in classroom environments which encourage interaction between students. The issue is vertical versus lateral information transmission.¹⁵⁷

Assumptions thirteen through seventeen are factors of intellectual development. Such development takes time and therefore should not be rushed. Barth also notes the differences between thought patterns of adults and children. "Primary experiences" with concrete materials occur before children can label bits of knowledge. "What appears to be

¹⁵⁶Ibid., p. 120-126.

¹⁵⁷Ibid., pp. 126-127.

conceptual thinking on the part of a child is often verbal association."¹⁵⁸

Evaluation is examined in assumptions eighteen through twenty-four. Barth notes a problem facing open educators is how to react to the problem of evaluation. It is not enough to simply criticize traditional education.

Open educators are reluctant to use children's correct and incorrect responses for purposes of placement, promotion, testing, or grading. They feel that to use a child's mistakes in these ways is inconsistent and hypocritical. This points up a serious weakness of open education practice to date -- the inability and/or unwillingness to measure in any objective and systematic way the various important outcomes of children's experiences in school. . . . Reluctance to evaluate may also be due to a decision to spend time facilitating behavior rather than measuring it, if one must choose between the two.¹⁵⁹

Barth's comments herewith avoid mention of assumptions twenty-five through twenty-nine which are purported to be factors of knowledge. Nevertheless he seems to have provided his reader with an honest interpretation of the beliefs, strengths, and weaknesses of open education.¹⁶⁰

Barth's foregoing factors appear to have been arrived at intuitively. Coletta determined other factors when the Barth scale was statistically analyzed as reported in Chapters IV and V.

Advocates agree that trust of students and appreciation of their unique individuality are at the heart of

¹⁵⁸Ibid., p. 129.

¹⁵⁹Ibid., p. 133.

¹⁶⁰Ibid., pp. 134-136.

open education. Through such faith one is disposed to view education in a light different from traditional education. The learner is viewed as his own maker of meaning. Consequently, how one learns is as important as what one learns. Independence rather than dependence upon the teacher is encouraged. Indeed the entire student-teacher relationship is altered as the teacher allows himself to be viewed as a fellow human.¹⁶¹

Open educators place great emphasis on self concept. Respect for self is more likely to occur when the school provides opportunities for success. Barth begs the question when he writes the following:

Open educators assume that opportunities to explore, to try, and to fail in the absence of threat contribute to a sense of mastery and the development of a child's knowledge. There seems to be some relationship between knowing oneself and self-esteem, and self-esteem is seen to be crucial for learning. Put more strongly, a strong self-concept on the part of the child is the sine qua non of open education; if, and only if, the child respects himself will he be able to be responsible for his own learning. Does this mean that schools are in some fundamental way responsible for fostering self-confidence?¹⁶²

In keeping with the importance of self concept, Silberman notes the work of Dr. Marie Hughes in the Philadelphia Negro slums. Dr. Hughes has found that to succeed each child must come to feel he is of worth. Respect for

¹⁶¹Ibid., pp. 99-115.

¹⁶²Ibid., pp. 120-121.

children is fostered by interpersonal relations and the classroom activities which each child experiences.¹⁶³

John Holt offers an interesting suggestion. He suggests the dangers when a teacher manipulates a child's self concept. To honor a child's past accomplishments while extolling him to new heights via new tasks is to invite dangers. If the new task proves too much, the self concept may suffer. Holt suggests children don't need as much praise as some teachers seem to think.

In fact, when we praise him, are we not perhaps horn-
ing in on his accomplishment, stealing a little of
his glory, edging our way into the limelight, prais-
ing ourselves for having helped to turn out such a
smart child?¹⁶⁴

Holt asks whether failure is feared so much by rating suc-
cess too highly.

To facilitate open education, teachers must fully understand and be able to identify real learning. Specifi-
cally, what do successful students do that sets them apart
from other less successful students? Once real learning is
recognized, Postman and Weingartner suggest that schools
should be structured around a model reflective of the "be-
havior of good learners."¹⁶⁵

John Holt observes that pre-school children display
an ability to think which too often flounders in our

¹⁶³Silberman, op. cit., p. 312.

¹⁶⁴Holt, How Children Fail, p. 69.

¹⁶⁵Postman and Weingartner, Teaching as a Subversive Activity, p. 31.

schools. It would seem schools should nurture youths' ability to think by providing an even richer environment with which children can react rather than trying to teach artificial problem solving strategies. Holt contends teachers themselves don't employ such unreal methods.¹⁶⁶

The good learner is first recognized as one who has faith in his world and himself. Consequently, a healthy self concept is crucial if one is to learn. The world is viewed as a place which is logically organized and thus predictable. Therefore the good learner trusts the world by checking his answers against the facts. He asks himself, "Does my answer make sense? Does it agree with the facts?"¹⁶⁷

The good learner shows a joy of living. He feels and acts alive. By being able to order his world and experiences he comes to be his own agent. His joy in learning leads to more learning. Problems are considered a challenge which the good learner appreciates. He is not upset if an answer is not immediately forthcoming. Actually he may wish to offer numerous answers which he considers tenable. He is also identified by his patience.¹⁶⁸ Holt finds the good student much like a creative scientist. Holt

¹⁶⁶John Holt, How Children Learn (New York: Dell Publishing Co., Inc., 1970), p. 9.

¹⁶⁷Holt, How Children Fail, p. 71.

¹⁶⁸Ibid., pp. 206-207.

emphasizes his comparison by noting an article in Scientific American.

"The creative scientist analyzes a problem slowly and carefully, then proceeds rapidly with a solution. The less creative man is apt to flounder in disorganized attempts to get a quick answer."¹⁶⁹

Holt strongly approves of play as being an integral factor to learning. Just as able students play with ideas, so do creative adults. They say to themselves, "Just for the fun of it, what would happen if . . . ?" The playfulness of such successful adults is not limited to any particular occupation. They have so much released themselves to play that other motivators become secondary. Consequently they become unable to distinguish between work and play. Holt argues that the precarious uncertainties of today require a whole generation of such "playful" adults.¹⁷⁰

Anthony Kallet agrees with Holt by suggesting good learners have their "personal sense of direction." When they encounter a difficult problem, they show no fear such as trying to cover up their uncertainty by "word-juggling."¹⁷¹ Holt contends good learners are aware of the exact nature of the problem and their personal state of mind.¹⁷² Consequently, they ask rational questions suggestive of purpose. They seem to know which questions and

¹⁶⁹Ibid., p. 71.

¹⁷⁰Rathbone, op. cit., pp. 9-10.

¹⁷¹Ibid., pp. 71-73.

¹⁷²Holt, How Children Fail, p. 28.

answers are of greatest value. The "no" answers are also utilized.¹⁷³ Holt provides insight by suggesting teachers need to give very careful attention to how one operates on a problem.

The true test of intelligence is not how much we know how to do, but how we behave when we don't know what to do.

The intelligent person, young or old, meeting a new situation or problem, opens himself up to it; he tries to take in with mind and senses everything he can about it; he thinks about it, instead of about himself or what it might cause to happen to him; he grapples with it boldly, imaginatively, resourcefully, and if not confidently at least hopefully; if he fails to master it, he looks without shame or fear at his mistakes and learns what he can from them. This is intelligence. Clearly its roots lie in a certain feeling about life, and one's self with respect to life. Just as clearly, unintelligence is not what most psychologists seem to suppose, the same thing as intelligence only less of it. It is an entirely different style of behavior, arising out of an entirely different set of attitudes.¹⁷⁴

If Holt and the others have correctly identified certain behaviors of good learners, what can teachers do to provide for other students to be more successful? Postman and Weingartner suggest numerous tactics which teachers can employ. However, teacher attitudes must change if there is to be significant improvement in schools. Change of attitude is reflected by change of behavior.

Foremost, the teacher must demonstrate an unwillingness to tell students what he believes they should know. Telling students what they should know is to rob them of

¹⁷³Ibid., p. 51.

¹⁷⁴Ibid., pp. 205-206.

discovery for themselves. There is also the question whether one can even know what another individual needs to know.

The teacher also utilizes questions as an effective method to further learning. Postman and Weingartner urge that questioning not be employed as a ploy to predetermined answers. Likewise the teacher should be reluctant to be satisfied with the "Right Answer" but searches for plausible answers. The "Right Answer" too often becomes an end in itself and thus terminates further study. Consequently, the wise teacher guides his students to search for underlying reasons which in due course lead to new questions.¹⁷⁵

Students are to be encouraged to interact with other students as discussions proceed. Rather than judge before the class which student's point of view is most tenable, the wise teacher leaves the decision making to each student where it rightly belongs. Likewise the teacher avoids a discussion summary in that summaries too often tend to inhibit further inquiry.

The wise teacher does not feel compelled to have his lessons always proceed in a predetermined "logical" fashion. Herbert Kohl seems to be speaking for all of open educators when he asserts,

Actually, the whole notion of there being an "orderly sequence" to learning is fallacious. Children's learning is episodic rather than

¹⁷⁵Postman and Weingartner, Teaching as a Subversive Activity, p. 34.

vertical or linear. One can think of it as a spider web rather than as a staircase. Happily, more recent studies by psychologists and other experts are beginning to point this out.¹⁷⁶

It is therefore not surprising to find Kohl suggesting the lesson plan be considered "anecdotal." Therefore the teacher plans for what might happen, and the various optional methods whereby such learning might take place rather than what must happen on a particular day. Again it becomes apparent that the open educator must have faith in himself and his students. The lesson plan is reflective as well as prospective in that the teacher also uses it as a diary to look back and determine progress. Kohl identifies the open educator as one who operates with "suspended expectations." In other words, the open educator does not have a lesson plan; he has lesson plans for contingencies. Kohl suggests the lesson plans can be a "collaborative venture" between the teacher and students.¹⁷⁷ Postman and Weingartner continue by suggesting teachers' lessons should pose problems which initiate activities. Through inductive methods students increase their knowledge and strengthen problem solving competencies. Consequently, such a teacher measures success by observing behavioral changes in his students. He closely observes how students proceed to gather facts and solve problems.¹⁷⁸

¹⁷⁶Kohl, op. cit., p. 54.

¹⁷⁷Ibid., pp. 20-48.

¹⁷⁸Postman and Weingartner, Teaching as a Subversive Activity, pp. 34-36.

Advocates of open education quickly point out that they are not advocating chaotic, permissive classrooms. Although they abhor repressive authoritarian classrooms, they equally dislike anarchy in the classroom. Open educators are united in their belief that schools should be democratic in a very real sense. They question a dictatorship-like school environment which allegedly prepares the young for democracy. Advocates of open education find a serious inconsistency in such schools. Likewise open educators disagree with those who contend that students should be given greater freedom only when they are shown to be responsible. Children are born with freedom. It is an inalienable right which can't be given or parceled out.

John Holt acknowledges there are those who believe it is unwise for schools to emphasize student freedom. Such critics contend adults actually have little freedom themselves in that they are controlled by employers, government, and social mores. The conclusion is that children might as well get used to such controls while in school. Holt argues that the essence of democracy is freedom, and unless man is free, he can't experience the fullness of life. He contends that when children feel free as students, they will cherish freedom and fight for it as adults. Democracy only flourishes where freedom is prized.¹⁷⁹

Therefore faith and trust are sine qua non to open education. However this is by no means to suggest that

¹⁷⁹Holt, The Underachieving School, pp. 129-130.

rules are absent in an open education classroom. Rules must exist, but they must exist for a reason other than the caprice of teachers and administrators. Like a democracy, students have a right to participate in the making of rules when the need for such rules becomes apparent. Open educators contend children are very responsible in this matter. Let there be no mistake; open educators do not take a passive posture in the operation of a class. Teachers participate fully in open classrooms. Children are in school to learn. It is also important to note that open educators do not consider such policies as an efficient tactic to coerce children to learn predetermined content. Open educators sincerely believe that children are innately curious and self motivated when interacting with an exciting and rich environment. It is the teacher's role to facilitate learning by helping to make the student aware of such potentials. Obviously teacher flexibility must be in evidence. Rathbone makes this point rather clear.¹⁸⁰

What this means in terms of actual classroom performance is that open education de-emphasizes the view of teacher as instructor, possessor of special knowledge, transmitter of answers, filter or mediator between materials and learner, determiner of curriculum, orchestrator of large groups of children, evaluator, standard setter; it emphasizes, on the other hand, teacher as trained observer, diagnostician of individual needs, presenter of environments, consultant, collaborator, flexible resource, psychological supporter, general facilitator of the learning requirements of an independent agent. This means

¹⁸⁰Rathbone, op. cit., pp. 99-105.

that in open education the teacher is mainly assistant to not director of the child's activity.¹⁸¹

The open educator is encouraged to display his likes and dislikes. His personality comes alive by replacing the sterile stereotype students tend to see in too many teachers. The teacher simply stops acting like a "teacher" by being candid and honest with children. Such a teacher feels and shows as much respect for children as fellow adults. Open educators believe in greater humanism in the classroom, as teachers seek to feel greater empathy toward students. Consequently, separate cognitive, affective, and psychomotor taxonomies are reunited.¹⁸²

Open Education in Operation

What does an open classroom look like? Not all open classrooms are alike, but the following description is reasonably representative. The typical class day begins with children engaged in "free activities" which may have been unfinished from the previous day. After approximately an hour, the teacher calls the class together for a planning session during which each child prepares his personal plan. The plan is temporary and subject to change. At this time the teacher offers suggestions and organizes meeting times with individuals and groups in the various interest areas. Based on needs which the teacher senses from

¹⁸¹Ibid., pp. 106-107.

¹⁸²Kohl, op. cit., pp. 14-15.

observation, students are asked to devote at least a minimum amount of time to the reading, writing, and mathematics area. Children move with their interests. The teacher is also on the move by consulting and keeping notes about the children -- not grades. Activities may take various forms. The following observation of eight and nine year olds who built a 6'x8'x6' play house may be of interest for industrial educators.¹⁸³

The children visited a lumber yard and arranged to get some old plywood. They developed quite elaborate plans which involved measurement and geometry. An architect demonstrated model making, which the children then tried. They viewed a variety of films on house building. A tape-recorded lesson provided additional information on the use of tools -- the lever, plane, and gear -- and two retired carpenters in the community gave some practical demonstrations.

Individual children pursued many different interests in relation to the house-building project. They wrote letters telling others of their experience. They took up individual projects including Indian homes, termites, trees, creatures that live in trees, homes around the world, workers who build homes, old and modern tools, skyscrapers, and doll houses. Such projects quite naturally move across the artificial separation of subject matter.¹⁸⁴

At the end of the day the children join together to share their experiences often by means of a group presentation. As the year proceeds, children tend to become more responsible for planning their learning.¹⁸⁵

The open classroom, like its British counterpart, looks different from traditional classrooms. The room is

¹⁸³Perrone, op. cit., pp. 18-19.

¹⁸⁴Ibid., p. 19.

¹⁸⁵Ibid., pp. 18-20.

flexible with a great variety of interest areas and resources. Open educators utilize prepared materials but voice an opposition to "packages" focused on a predetermined route. Materials from the local community are utilized. Local materials help to minimize some of the problems created by commercial materials. Vito Perrone explains some problems caused by overuse of commercial materials.

Parents visiting a classroom and viewing vast stores of expensive commercial equipment and materials must resign themselves to being able to contribute little to a significant learning environment at home. And children will be less likely to involve themselves in really creative enterprises at home, which may grow out of or into experiences at school, if there is not greater overlap of materials inside and outside the school.¹⁸⁶

As Charles Silberman notes, open education is having an impact by being implemented in various schools throughout the United States. Open education is found in New York's Harlem; Philadelphia; Tucson; Washington; Cambridge, Massachusetts; Patterson, New Jersey; San Antonio, Texas; and many schools throughout North Dakota.¹⁸⁷ By far the greatest impact has been at the elementary level. Most often it appears open education evolves gradually on the volition of teachers.

Implementation of open education within North Dakota grew out of a statewide study under the auspices of the state's Legislative Research Committee in 1965. Results of

¹⁸⁶Ibid., p. 22.

¹⁸⁷Silberman, op. cit., p. 266.

the study disclosed that the state ranked fiftieth in the professional preparation of elementary teachers and in overall opportunities afforded elementary students. Clearly a crisis had developed which required more than upgrading teachers. A consultant to the statewide study had read Joseph Featherstone's accounts of the British informal primary schools and thereby suggested North Dakota should consider a similar educational program.

After additional study, the decision was made to begin implementation of open education throughout the state. Approximately thirty school districts had implemented open education by the beginning of the 1969-1970 school year. Such a massive retraining program required an integral participation by the University of North Dakota. It was decided sweeping changes in teacher training and retraining would be more effective by creating a new institution rather than utilize the existing College of Education. Consequently, the New School of Behavioral Studies in Education was created. Dr. Vito Perrone, a graduate of Michigan State University, was selected as the Dean of the New School.¹⁸⁸

Two types of students are served by the New School, undergraduate juniors who enroll for three years leading to a master's degree and experienced teachers wishing to earn a bachelor's degree. The program is voluntary and requires up to two years during which time experienced teachers

¹⁸⁸Ibid., pp. 284-288.

remain on the main campus. Their temporary absence is filled by New School master's degree candidates in an internship-like capacity.¹⁸⁹ Excerpts of a letter to Dean Perrone by one of the "retreads" is an indicator of the program's success.

"I know there are areas in which I have worked with greater reservations perhaps than you would have liked me to. This is not because I disagree with the philosophy but because it is difficult to throw away some of the restraints I have practiced for many years." Difficult or not, her enthusiasm is clear. "As far as teaching is concerned, it's been almost like starting a new profession. I feel sorry for the older teachers who are staying at home in the same old rut. If only they knew what they were missing!"¹⁹⁰

Silberman suggests that it is premature to judge the success of open education in North Dakota. However, several indicators suggest preliminary successes. Although no total assessment has yet been made, individual participating schools are showing marked gains in reading, writing, arithmetic, and science. Also noteworthy is the obvious improvement in attendance.¹⁹¹

Open education is affecting secondary schools but at a far lesser extent than elementary schools. There are several contrasting explanations offered. There are those who contend that the public may accept open education at the elementary level but hold that such tactics

¹⁸⁹Ibid., p. 288.

¹⁹⁰Ibid., p. 269.

¹⁹¹Ibid., pp. 288-289.

are inappropriate at the secondary level. Presumably secondary schools should get down to the serious business of education. Play and freedom may be appropriate for young children, but continuance of such policies is inappropriate at the secondary level, argue critics of open education. Max Rafferty writes, "The experience of the great mass of humanity over the centuries, however, has demonstrated that the easiest, most economical way to learn is in organized classes from trained instructors with assigned lessons."¹⁹² It is as though the imagined realities of life have caught up with students as coursework credentials for college admission or employment must be met.

John Holt contends that it is most unfortunate that young children can taste the freedom and joy of learning in an open classroom but be later subjected to traditional secondary education and thus know it could be so much more.¹⁹³ Perrone agrees by contending "the assumptions which underlie open education are equally applicable to secondary schools." However, the likelihood of mass implementation of open education in secondary schools doesn't appear too promising in the near future.¹⁹⁴ Holt believes that fortunately children have a great deal of adaptability in that they can adapt to traditional secondary schools from open elementary

¹⁹²Hart, op. cit., p. 17.

¹⁹³Rathbone, op. cit., p. 13.

¹⁹⁴Perrone, op. cit., p. 35.

experiences. Therefore Holt argues that even a brief period of open education is better than none at all.¹⁹⁵

Silberman considers our secondary schools to be even more repressive than elementary schools and thus in critical need of humanization. He goes so far as to write off junior high schools as "educational wastelands."¹⁹⁶ However, there is a noticeable difference between Silberman and Holt in this matter. Holt believes that open education practices in elementary schools should be implemented in secondary schools. He argues that adolescence is a crucial period which should not be adversely influenced by the secondary school experience. Adolescents have enough pressures without undue school pressures. It is a period of examination as the youth seeks self-identity, interpersonal relationships, and preparation for occupational goals. As such, it is a time when the adolescent is busy enough trying to please himself. Traditional schools, however, force him to concentrate on pleasing others.¹⁹⁷ Consequently, for Holt open education principles found in elementary schools must become implemented in secondary schools.¹⁹⁸

Silberman places several qualifications on such an action. He argues that adolescents have rather well

¹⁹⁵Rathbone, op. cit., pp. 13-14.

¹⁹⁶Silberman, op. cit., p. 324.

¹⁹⁷Holt, The Underachieving School, pp. 39-40.

¹⁹⁸Rathbone, op. cit., pp. 12-13.

defined interests which tend to be beyond the influence of their teachers. In addition, adolescents learn in styles and complexities unlike young children. Silberman cites Piaget's work which indicates between the ages of twelve and fifteen most adolescents display "formal operations" of abstract thinking. For this reason Silberman contends adolescents are thus ready to learn the richness of our culture. This is not to suggest such transmission of culture be a goal in itself but rather fundamental structures must be emphasized. Even fundamental structures are not enough. Students must be taught the powers of discrimination as they seek the relevant. "In short, students need to study the grammar or syntax of the disciplines, as well as their structure and content."¹⁹⁹

A rather noticeable problem seems to have risen for Silberman as he seeks to explore alternatives to traditional education. He asks which disciplines should be selected in which sequence and containing what content. Views on "basic education" by advocates such as Arthur Bestor fail to impress Silberman.²⁰⁰ Bestor in his 1953 Educational Wastelands received considerable attention from Cremin as being one of the most articulate critics of progressive education.²⁰¹ Silberman notes that even the "basic education"

¹⁹⁹Silberman, op. cit., pp. 223-227.

²⁰⁰Ibid., p. 328.

²⁰¹Cremin, op. cit., pp. 343-346.

advocates cannot agree what courses constitute basic education. He uses the PSSC physics course as an example of difficulties when attempting to design an ideal physics curriculum. Silberman provides a rather unsatisfactory conclusion when discussing secondary curriculum.

The conflict need not be resolved: it is not essential that teachers and students share the same educational goals, only that they have educational goals . . . ²⁰²

Silberman acknowledges many schools have relaxed numerous regulations of which he approves. However, he documents numerous schools which publish platitudes about fostering "self-directing individuals" while daily policies and practices are indeed their own antitheses. Movements toward modular scheduling and other similar innovations are approved by Silberman. However, he believes such tactics may be diversionary while avoiding more fundamental attitudes toward education.²⁰³ There are only several secondary schools throughout the United States which are receiving publicity for open education implementation.

John Adams High School in Portland, Oregon, is currently receiving attention as being a leading example of secondary open education. The program at Adams High grew out of concerns expressed by several Ph.D. candidates at Harvard University several years ago. Robert Schwartz, one of the debate participants, is now the principal at Adams

²⁰²Silberman, op. cit., pp. 334-335.

²⁰³Ibid., pp. 340-345.

High. The school seeks for students to be more self-reliant as they direct their own planning. Rules and regulations are minimal. The curriculum centers around an interdisciplinary "general education" course which attacks real life problems by dividing into teams. Team activities are directed to the extent to realize concepts of required courses for state required subjects. Students may also enroll in elective courses such as industrial arts in which they work as independently as possible. "Mini-courses" are also created when student interest warrants. Students also have two free periods each day to do whatever they wish. Some students elect to do nothing. Students have the option to receive credit -- no credit or letter grades. Reactions to the Adams High experiment have been mixed. Some criticism has been directed toward a need for greater rigor in the curriculum. At the very least, students feel Adams High is humanized. If Adams High is successful, it can serve as a model of secondary open education inasmuch as Adams High is a typical high school with an enrollment of 1,600.²⁰⁴

Another school receiving attention for its curricular innovations is the Parkway Program in Philadelphia. Parkway is obviously different from other schools in that it is not a school building. Instead the city of Philadelphia is the school. Most of the activities occur throughout the business and cultural enterprises located along the

²⁰⁴Postman and Weingartner, The Soft Revolution, pp. 76-78.

Benjamin Franklin Parkway. A floor of a downtown building serves as administrative offices and meeting site for students. Consequently, field trips are not brief interludes but rather much of the substance of Parkway. It becomes readily apparent that Parkway signifies an entirely unique approach to secondary education.

It is, therefore, not surprising that Parkway students have considerable responsibility in planning their education. The only direct structure is the obligation to meet the statewide course requirements. Therefore teachers along with university interns meet with small groups of students. Meeting locations may be teachers' homes or other appropriate sites. Evaluations are considered integral and are of the pass-fail standard.

Students are expected to also engage in many of the cooperative education opportunities available at various businesses, such as insurance companies, museums, the zoo, social agencies, and the local television station. Student incomes may be derived at some of the cooperating institutions. At other sites students assist in projects or simply observe. Obviously the burden for learning is placed upon each student.

The Parkway Program is too new to be thoroughly evaluated. A certain amount of intellectual flabbiness is being attended to. However, there appears to be rather strong student support for Parkway.

There is a question whether Parkway can serve as a model for other schools. The small enrollment of 500 (1969-1970) and the wealth of opportunities along the Parkway and throughout Philadelphia are contributing factors worth consideration. Silberman acknowledges that the participating concerns perhaps would not be so receptive if all of Philadelphia's high school students were involved in the Parkway Program. John Bremer, Parkway's director, contends that the resources are not so crucial and that the program could be duplicated anywhere. He believes the strength of the Parkway Program lies in its absence of a building which would have forced the creation of a "distinctive social structure."²⁰⁵

The Murray Road Annex High School in Newton, Massachusetts, is yet another of the more revolutionary programs. It began by being an elective adjunct to the regular Newton High School. The Murray Road Annex is an old elementary school which had been vacant. Initially the program was very structured for three mornings each week while required subjects were offered. Other times allowed for an opening up whereby a wide variety of subjects were pursued on a more informal basis. Murray Road teachers came to realize there was an obvious contradiction in the curriculum in that the spirit of self-education was not truly being fostered.

²⁰⁵Silberman, op. cit., pp. 349-356.

Consequently, a period of self-examination took place as teachers and students formed groups to discuss the curriculum with parents, residents, and college admissions officials. Ultimately the formal rigidity found in the morning classes was relaxed. Written evaluations to parents are now in two parts, one from the student and the other from the teacher. As one might expect, a great deal of adjustment to such new found freedom is required of teachers and students alike. Not all can make the adjustment, but fortunately many can.²⁰⁶ Silberman offers the following quote from a parent as an indicator of the success Murray Road has had for some students.

From a parent's evaluation. "When my son was unhappy at Newton High School and doing poorly I could never decide whether he was the problem or if perhaps he was right when he said that much of the school did not teach him anything. I feel now he was sincere. This year he cannot get enough of all he is learning -- he spends every minute singing the praises of Murray Road, but he does not talk about freedom, bull sessions, fooling around and indifference but downright, genuine desire to make papers perfect, an absolutely amazing love for every teacher, an incentive which has focused his every bit of energy toward doing better today than yesterday and suddenly a hunger for many tomorrows which will enable him to do more. . . . With less pressure from school routine that was so great at Newton High, my son has pressured himself more, putting study first and working to conclusions. I believe his scope has broadened -- his desire to absorb more and more. . . . If he had stayed at Newton High School, I see the possibility of his wings never spreading. I had no idea so much could unfold in so short a time."²⁰⁷

²⁰⁶Ibid., pp. 356-364.

²⁰⁷Ibid., p. 359.

Future of Open Education

Eventually one interested in open education must reflect upon the future of the movement. It is readily apparent that open educators display a sense of uneasiness when they begin to make forecasts. There is reason for concern especially when one looks back toward the plight of progressive education. It would appear open educators must become more aware of the history of progressive education.

This is a delicate period for open education because many questions need answers. Also many dangers exist for open education. Charles Rathbone warns that there may be those who try to implement open education without fully understanding its rationale.²⁰⁸ William Hull observes that visitors to British informal schools sense they "do not spring up spontaneously without there having been someone with a pretty good idea of what he was about."²⁰⁹ Surely there is a message here for open education advocates in the United States. Roland Barth is well aware of the need for further examination of the assumptions which underlie open education. He contends that a well run traditional classroom is still better than a poorly implemented open classroom.²¹⁰ Open education could have as many aberrations as befell progressive education. Jonathan Kozol speaks of

²⁰⁸Rathbone, op. cit., p. 115.

²⁰⁹Ibid., p. 46.

²¹⁰Ibid., pp. 134-136.

shortcomings of the free school movement which also have implications for open education in the public schools. Although Kozol is a leader of free schools, he contends they often fail because they don't teach. Kozol cautions against teachers who forsake teaching skills that children, specially ghetto youth, need desperately. Student survival in the work-a-day world depends on certain skills which the teacher may take for granted.

There's not much that a poor, black 14-year-old can do in cities like New York or Boston if he cannot read and write enough to understand a street sign or to read a phone book. It is too often the rich college graduate who speaks three languages with native fluency, at the price of 16 years of high-cost, rigorous and sequential education, who is most determined that poor kids should make clay vases, weave Indian headbands, play with Polaroid cameras, and climb over geodesic domes.²¹¹

What will it take for open education to survive? John Holt contends that open education cannot survive "unless it becomes a part of a wider and deeper notion or vision of life and of social change." Holt's belief may be very perceptive in that our schools are not away from public scrutiny. He acknowledges open education has "long-run political and social consequences" which may or may not be acceptable to the public.²¹²

Consequently, there is the need for time as open education develops and refines itself. Is the public too

²¹¹Johnathan Kozol, "Free Schools Fail Because They Don't TEACH," Psychology Today, V (April, 1972), 32.

²¹²Rathbone, op. cit., pp. 11-14.

impatient by wanting immediate success? Open educators note that the British informal schools took years to develop. Also the British appear to leave their schools alone by trusting in the professional educators to do the right thing. Does the American public have such faith in its educators?²¹³

Both Vito Perrone and Charles Silberman agree that open education needs structure if it is to meet educational needs of children. Silberman declares the movement should not be viewed as a panacea nor monolithic. Open education is not simply an educational model which can be transplanted at will.²¹⁴ As Perrone notes, open education will have a difficulty if it isn't freely entered. The administrator who announces, "Next year I want you all to implement open classrooms" is asking for trouble. Open education must be entered into on one's own volition and at a comfortable pace.²¹⁵ There is the danger that too many teachers have become trapped by traditional education. It may be like a principal in the Eight-Year Study who concluded, "I fear we have come to love our chains."²¹⁶

There is also an obvious need of a support system if open education is to be viable. The Elementary Science Study of Newton, Massachusetts, and the National Association

²¹³Ibid., p. 11.

²¹⁴Silberman, op. cit., p. 319.

²¹⁵Perrone, op. cit., p. 31.

²¹⁶Silberman, op. cit., p. 320.

of Independent Schools of Boston are helping to promote open education.²¹⁷ Perrone also acknowledges the Educational Development Center. Colleges and universities must become more active in open education if it is to receive the support it needs. Currently support is found at Wheelock College, Newton College, University of Connecticut, City College of New York, University of Illinois, University of Colorado, and the University of North Dakota. Institutions of higher education are needed to provide open education training and retraining.²¹⁸

There is also concern for the educational pendulum as a balance between the cognitive and affective is sought. Open educators are well aware, or should be, of the problem.²¹⁹ Unfortunately sometimes a quirk of fate having nothing to do with education sends the pendulum reeling the other direction. Less astute critics claim the emergence of Sputnik signaled a condemnation of progressive education. Silberman reminds his readers of the quip, "Their German scientists had gotten ahead of our German scientists."²²⁰

Philosophic Support for Open Education

As witnessed in Chapter I, there is a great deal of philosophic support for open education although many

²¹⁷Rathbone, op. cit., p. xii.

²¹⁸Perrone, op. cit., p. 34.

²¹⁹Silberman, op. cit., p. 322.

²²⁰Ibid., p. 169.

open educators write as though their views are original. Basic precepts for open education go back to the ancients. Charles Silberman acknowledges Plato wrote about issues which today concern open educators.²²¹ For the purposes of this study it shall be sufficient to examine the works of selected philosophers who best appear to have written in the spirit of open education. Therefore the examination commences with Comenius and concludes with Bode. This section is definitely not exhaustive inasmuch as noted philosophers such as Alfred North Whitehead have been omitted. Also, conversely, one could build a philosophic case against open education by examining the works of William Chandler Bagley and others.

John Amos Comenius

Comenius collected his thoughts on educational reform to produce his magnum opus, The Great Didactic, which appears to have been written in 1632. His writing style against educational practices of his day is similar to John Holt's. For example, Comenius spoke of the schools as "slaughterhouses of the young."²²² On another occasion he castigated the educational system he witnessed.

Teachers almost invariably take their pupils as they find them; they turn them, beat them, card them, comb them, drill them into certain forms, and expect them to become a finished and polished product; and if the result does not come up to their expectations (and I ask you how could it?) they are indignant, angry, and

²²¹Ibid., p. 334.

²²²John Amos Comenius, op. cit., p. 2.

furious. And yet we are surprised that some men shrink and recoil from such a system. Far more is it matter for surprise that any one can endure it at all.²²³

As far as Comenius was concerned, there had been no perfect schools as of his time. He felt that the methods were so severe as to drive many youth from schools. For those who succeeded, a comprehensive education was not realized but only "a preposterous and wretched one."²²⁴

Like today's open educators, Comenius was not content to criticize the educational system. He felt compelled to offer a viable substitute which he considered more tenable. Comenius thus set out to describe his educational model. Goals were an obvious prerequisite. Consequently, he began by promoting universal education for both the rich and poor of both sexes.²²⁵ Comenius was concerned that there was no particular method employed in the schools. Methods varied from teacher to teacher and from subject to subject. Too often students were expected to sit patiently until their recitation turn came.

Comenius was also concerned about depth and breadth of knowledge. He cited how Pythagoras, Archimedes, Agricola, and Longolius had spent entire lifetimes in pursuit of their respective disciplines. Thus Comenius reasoned if such strong intellects must spend entire lifetimes to

²²³Ibid., p. 88.

²²⁴Ibid., p. 77.

²²⁵Ibid., pp. 76-77.

master but one discipline, what futility must exist to expect the same from mass education. (One wonders how Comenius would react to the knowledge explosion in the twentieth century.) For Comenius the principles, causes, and uses of information are most important. He wrote,

For we must take strong and vigorous measures that no man, in his journey through life, may encounter anything so unknown to him that he cannot pass sound judgment upon it and turn it to its proper use without serious error.²²⁶

Comenius was also displeased with the separation of the disciplines. He wanted them taught as an "encyclopedic whole" rather than being "dealt out piece-meal." Students could not understand linkage between subjects, since such linkage was not an integral aspect of their education.²²⁷

Just as today's open educators seek greater humanism in schools, Comenius wrote in 1632 about schools being "workshops of humanity."²²⁸ Comenius also concerned himself with the matter of coercion. He believed virtually all students are capable of learning if only their teachers are wise and patient. He believed that the desire to learn is a natural phenomenon not to be inhibited by external distractions. ". . . With many not the capacity to learn but the inclination is lacking, and to compel these against their will is as unpleasant as it is useless."²²⁹ The

²²⁶Ibid., p. 70.

²²⁷Ibid., p. 161.

²²⁸Ibid., p. 71.

²²⁹Ibid., p. 87.

teacher's role in Comenius' view was that of benevolent guide rather than taskmaster. He wrote, ". . . the seeds of knowledge, of virtue, and of piety exist in all men . . . , it follows of necessity that they need nothing but a gentle impulse and prudent guidance."²³⁰

In effect Comenius addressed the issue of self concept. He advised,

. . . the teacher must meet their weak natures half-way, must lay no heavy burden on them, must not demand anything excessive, but rather have patience, help them, strengthen them, and set them right, that they may not be disheartened. Though such pupils take longer to come to maturity, they will probably last all the better, like fruit that ripens late.²³¹

Comenius turned to the fine and practical arts as a desirable educational method. He believed that students needed a model for self evaluation, grounding in tools of the subject, and practice. Thus Comenius opposed the emphasis on theory alone.

Artisans do not detain their apprentices with theories, but set them to do practical work at an early stage; thus they learn to forge by forging, to carve by carving, to paint by painting, and to dance by dancing. In schools, therefore, let the students learn to write by writing, to talk by talking, to sing by singing, and to reason by reasoning. In this way schools will become workshops humming with work, and students whose efforts prove successful will experience the truth of the proverb: "We give form to ourselves and to our materials at the same time."²³²

²³⁰ Ibid., p. 84.

²³¹ Ibid., p. 89.

²³² Ibid., p. 195.

Open educators speak of the necessity of concrete experiences as did Comenius. He also appreciated the value of errors in the learning process.

Mechanics do not begin by drumming rules into their apprentices. They take them into the workshop and bid them look at the work that has been produced, and then, when they wish to imitate this (for man is an imitative animal), they place tools in their hands and show them how they should be held and used. Then, if they make mistakes, they give them advice and correct them, often more by example than by mere words, and, as the facts show, the novices easily succeed in their imitation. For there is great truth in that saying of the Germans, "A good leader finds a good follower."²³³

Comenius also spoke of school discipline. He opposed the use of force and instead argued for reason through interest in students. The teacher was equated to a gardener who "does not apply the pruning knife to plants which are immature."²³⁴

Motivation was viewed by Comenius as residing in the individual rather than through fear of reprisal. Comenius accepted the thoughts of Eilhard Lubinus.

". . . the young should never be compelled to do anything, but their tasks should be of such a kind and should be set them in such a way that they will do them of their own accord, and take pleasure in them. I am therefore of opinion that rods and blows, those weapons of slavery, are quite unsuitable to freemen, and should never be used in schools . . . "²³⁵

One finds in the words of Comenius so many of the ideas of today's open educators. For such thoughts to have

²³³Ibid., p. 196.

²³⁴Ibid., p. 250.

²³⁵Ibid., pp. 253-254.

been expressed over 300 years ago, one wonders why educational reform moves so slowly.

Jean Jacques Rousseau

Like Comenius, Rousseau made frequent statements which can only be interpreted as supporting open education. Of his many works, Rousseau's Émile, written in 1762, speaks directly to education.

Rousseau is primarily remembered for his belief in the natural goodness of man. Thus he holds nature as an integral element in education. He wrote of man, the corrupter, who made education necessary. There may be some confusion as to what Rousseau meant by nature as it applies to education. Payne interpreted Rousseau by summarizing, "Education must be natural in the sense that it must be based on the permanent elements in our constitution."²³⁶ For Rousseau, education was somewhat of a triumvirate derived from nature, from men, and from things. Consequently, balance from these elements was considered both delicate and crucial. Moreover, success could be only partial in that only education from men is controllable.²³⁷ Rousseau's emphasis on nature in education appears to have been misinterpreted by some of his readers. Apparently only selected statements have registered, such as, "God makes all things

²³⁶Jean Jacques Rousseau, Rousseau's Émile or Treatise on Education, trans. William H. Payne (New York: D. Appleton and Company, 1904), p. 321.

²³⁷Ibid., pp. 2-3.

good; man meddles with them and they become evil."²³⁸ Likewise, one could prematurely conclude that Rousseau rejected schooling when he wrote, "When our natural tendencies have not been interfered with by human prejudice and human institutions, the happiness alike of children and of men consists in the enjoyment of their liberty."²³⁹ However, this is not to say Rousseau totally rejected schooling by only favoring one's interaction with nature. Rousseau wrote,

Yet things would be worse without this education, and mankind cannot be made by halves. Under existing conditions a man left to himself from birth would be more of a monster than the rest.²⁴⁰

Open educators now argue against sacrificing youth to the future. So did Rousseau. He wrote,

What must we think, then, of that barbarous education which sacrifices the present to an uncertain future, which loads a child with chains of every sort, and begins by making him miserable in order to prepare for him, long in advance, some pretended happiness which it is probable he will never enjoy? . . . Who knows how many children perish, the victims of the misdirected wisdom of a father or a teacher? . . .
 . . . Be humane to all classes and to all ages, to everything not foreign to mankind. . . . Love childhood . . .²⁴¹

Concern for the unwarranted pressures on children is readily apparent. A concern for relevance is also displayed. Rousseau continued,

²³⁸Jean Jacques Rousseau, *Émile*, trans. Barbara Foxley (New York: Everyman's Library/Dutton, 1911), p. 5.

²³⁹*Ibid.*, p. 49.

²⁴⁰*Ibid.*, p. 5.

²⁴¹Payne, *op. cit.*, pp. 44-45.

It is absurd to require them to apply themselves to things which are vaguely declared to be for their own good, without knowing what this good is of which they are assured they will derive profit when grown . . . ²⁴²

It is therefore not surprising that Rousseau, like the open educators, sought an education based on experiences rather than solely on theoretical abstractions. He wrote, "I am weary of repeating; let all the lessons of young people take the form of doing rather than talking; let them learn nothing from books which they can learn from experience."²⁴³

Rousseau's emphasis toward experience impinged upon instructional resource material. He displayed reservations toward the unnecessary utilization of such material. His fear was that the symbol would command more attention than the reality it sought to represent and thus lead to distortion and confusion.²⁴⁴ Payne summarized Rousseau with the following:

In teaching geography, maps and globes are useless machines. Take the child where he can see the glories of the sun's rising and setting, and feel the charms of the morning and the evening. Do not pour into his ears your own descriptions of these natural phenomena, but allow him to see, and feel, and reflect.²⁴⁵

Books received as much concern from educators in Rousseau's time as instructional television and computer assisted instruction now receive. Rousseau was extremely

²⁴²Ibid., pp. 154-155.

²⁴³Foxley, op. cit., p. 214.

²⁴⁴Payne, op. cit., p. 141.

²⁴⁵Ibid., p. 336.

adamant toward books, which he regarded as replacements of memory and reason.

Books upon books! What madness! As all Europe is full of books, Europeans regard them as necessary, forgetting that they are unknown throughout three quarters of the globe. Were not all these books written by men? Why then should a man need them to teach him his duty, and how did he learn his duty before these books were in existence?²⁴⁶

There was one book, however, which captured Rousseau's respect. He found in Robinson Crusoe a most perfect model which supplies the "best treatise on an education according to nature."²⁴⁷

Rousseau also was concerned with the process of growth in children. Like open educators, the key to Rousseau was faith and trust. He wrote,

Silly children grow into ordinary men. . . . It is the most difficult thing in the world to distinguish between genuine stupidity, and that apparent and deceitful stupidity which is the sign of a strong character.²⁴⁸

Children were for Rousseau a rich natural resource not to be neglected or abused.

Hold childhood in reverence, and do not be in any hurry to judge it for good or ill. Leave exceptional cases to show themselves, let their qualities be tested and confirmed, before special methods are adopted. Give nature time to work before you take over her business, lest you interfere with her dealings.²⁴⁹

²⁴⁶Foxley, op. cit., p. 267.

²⁴⁷Ibid., p. 147.

²⁴⁸Ibid., p. 70.

²⁴⁹Ibid., p. 71.

John Holt questions whether children should be "taught" to read. Rousseau had similar beliefs. He felt that the teacher's task was to give children a desire to read after which almost any method would be successful.²⁵⁰

Rousseau believed that education should be general inasmuch as all men have the same basic wants, destiny, and powers. He contended that education should prepare one for the uncertainties of life. Payne summarized, "Émile's education shall be directed according to what is universal in human life."²⁵¹ Consequently, the key word was "useful."²⁵² In like manner, Rousseau viewed the teacher as guide and motivator rather than source of information. He wrote, ". . . let your answers be enough to whet his curiosity but not enough to satisfy it . . ."²⁵³ Likewise he wrote, ". . . he is not to learn science, but to discover it . . ."²⁵⁴ Rousseau encouraged the development of an ability for making independent observations through the senses.²⁵⁵

Open educators speak out against the dangers of competition in education, as did Rousseau. He wrote,

Moreover, as soon as he begins to reason let there be no comparison with other children, no rivalry,

²⁵⁰Payne, op. cit., p. 82.

²⁵¹Ibid., p. 340.

²⁵²Ibid., p. 156.

²⁵³Foxley, op. cit., p. 135.

²⁵⁴Payne, op. cit., p. 137.

²⁵⁵Ibid., p. 152.

no competition, not even in running races. I would far rather he did not learn anything than have him learn it through jealousy or self-conceit.²⁵⁶

Rousseau was concerned with play for young children. He viewed play as the work of the young whereby there are no differences.²⁵⁷ However, as the youth grew older, such differences between work and play were emphasized so that foresight and planning could be nurtured.²⁵⁸

Rousseau also felt strongly about the use of time, as do open educators. ". . . the most important, the most useful rule, of all education . . . is not to gain time, but to lose it."²⁵⁹ He believed youth is a delicate period in which time is required to prepare for problems in adulthood. Furthermore, Rousseau believed that it is worse to use a child's time with ill teaching than to allow him to do nothing. He asked if it is possible for a child to actually do nothing.²⁶⁰ Such statements by Rousseau may be misinterpreted by assuming he advocated indulging children. Closer inspection clearly reveals he did not advise teachers to abrogate their responsibilities. Payne summarized Rousseau, "The surest way to make a child miserable is to accustom him to obtain whatever he desires. If his

²⁵⁶Foxley, op. cit., p. 146.

²⁵⁷Payne, op. cit., p. 127.

²⁵⁸Ibid., p. 154.

²⁵⁹Ibid., p. 58.

²⁶⁰Foxley, op. cit., p. 71.

infancy is made wretched in this way, what will be his condition as a man?"²⁶¹

Rousseau spoke about student-teacher relationships. He felt teachers should not lord over their students but rather feel and display empathy. The aspirations of the students should be considered. However, Rousseau did not consider students as equals of teachers lest respect be lost.²⁶² He felt teachers should provide guidance while giving as much freedom as prudent. Rousseau wrote, "Give him not what he wants but what he needs."²⁶³ Mistakes were to be expected and to be both identified and corrected by the student.²⁶⁴ Rousseau also cautioned against prejudgment, for it is difficult to foretell the genius of children. He felt nature should be allowed time to work upon the children.²⁶⁵

Open educators are now concerned with the matter of coercion, as was Rousseau. He felt Émile must do nothing against his will. Émile's purposes for learning were to be through pleasure rather than through fear.²⁶⁶ Rousseau felt too often society enslaved the individual through various

²⁶¹Payne, op. cit., p. 127.

²⁶²Ibid., p. 220.

²⁶³Foxley, op. cit., p. 49.

²⁶⁴Ibid., p. 134.

²⁶⁵Payne, op. cit., p. 67.

²⁶⁶Ibid., p. 145.

constraints. Education is to counteract this servitude by offering the individual his freedom with which one might better manage life.²⁶⁷ Rousseau advised children should find resistance in things and not in wills.²⁶⁸ In other words, teachers are not to get in the road of students' learning. Let educational frustrations originate in reality and not from pedantic teachers. Rousseau believed self-reliance needed to be developed in students. He felt students should learn not to be dependent upon others.²⁶⁹ Rousseau was also sensitive to dangers arising from students taught to be docile.

Let the child do nothing because he is told; nothing is good for him but what he recognizes as good. . . . To provide him with useless tools which he may never require, you deprive him of man's most useful tool -- common sense. You would have him docile as a child; he will be a credulous dupe when he grows up. . . .

A man must know many things which seem useless to a child, but need the child learn, or can he indeed learn, all that the man must know? Try to teach the child what is of use to a child and you will find that it takes all his time. . . . "But," you ask, "will it not be too late to learn what he ought to know when the time comes to use it?" I cannot tell; but this I do know, it is impossible to teach it sooner, for our real teachers are experience and emotion, and man will never learn what befits a man except under its own conditions.²⁷⁰

There is evidence that Rousseau was concerned about the unwise use of testing. He believed excessive

²⁶⁷ Ibid., p. 10.

²⁶⁸ Ibid., p. 29.

²⁶⁹ Foxley, op. cit., p. 35.

²⁷⁰ Ibid., p. 141.

questioning was useless and unwarranted. A chance word freely elicited indicates more than a battery of tests. Rousseau wrote, "A man must needs [sic] have a good judgment if he is to estimate the judgment of a child."²⁷¹

Rousseau acknowledged that students need to be punished for wrongdoing but never in an artificial manner. He recommended that punishment should be the natural consequences of their acts.²⁷² Such became the basis for Herbert Spencer's later work.

Rousseau also made statements suggestive of the implications toward open education from industrial education. He felt man's interdependence is best learned by studying "industry and the mechanic arts." Émile was not only to observe but to experience.²⁷³ It appears that Rousseau would not be content to use a narrow term as manual training, for he sensed the greater intellectual ramifications.

Reader, do not pause here to see the bodily training and manual dexterity of our pupil, but consider what direction we are giving to his childish curiosity; consider his senses, his inventive spirit, his foresight; consider what a head we are going to form for him; in everything he sees, in everything he does, he will wish to know everything, and understand the reason of everything; from instrument to instrument, he will always ascend to the first; he will take nothing on trust; he will refuse to learn that which can not be understood without an anterior knowledge which he does not possess. If he sees

²⁷¹Ibid., p. 127.

²⁷²Payne, op. cit., p. 65.

²⁷³Ibid., p. 165.

a spring made, he would know how the steel was taken from the mine . . . ²⁷⁴

Rousseau placed priority on the child and not on the activity. "The child ought to be wholly absorbed in the thing he is doing; but you ought to be wholly absorbed in the child . . ." ²⁷⁵

Implications for curricular planning are to be found in Rousseau's writings on industrial education. He cautioned not to exclusively offer study in the teacher's favorite occupations which might bore the student. Pleasure and sense of purpose must be felt by the student. ²⁷⁶

This brief examination of Rousseau's ideas is but suggestive of the scope of his understandings. Impact from his ideas is readily apparent in contemporary educational reform.

Johann Heinrich Pestalozzi

There appears to be some question as to the extent to which Pestalozzi accepted Rousseau's ideas. One source suggests Pestalozzi accepted Rousseau's belief in the natural goodness of man which can be corrupted by an evil social environment in which case education serves as salvation. In addition, it is said Pestalozzi agreed that human growth occurs in gradual stages nurtured by the senses rather than verbalism in which nature in the broadest sense

²⁷⁴Ibid., pp. 168-169.

²⁷⁵Ibid., p. 169.

²⁷⁶Ibid.

provides the best conditions for learning. While Pestalozzi also rejected the artificial, he was not led to simply reject society as evil.²⁷⁷ Another source contends that Pestalozzi acknowledged an indebtedness to Rousseau but found some of his ideas impractical.²⁷⁸ For example, Pestalozzi tried Rousseau's ideas on his own son, who was described as being physically and mentally weak, but found the child couldn't read by eleven.²⁷⁹ The essential difference between Pestalozzi and Rousseau was that Rousseau was more of a theorist while Pestalozzi sought through education to solve some very real problems. Pestalozzi's activities and those of his followers lead one to conclude he was indeed a man of action.²⁸⁰

Pestalozzi agreed with Rousseau and today's open educators in that he "gave the child back to himself and education back to the child and to human nature."²⁸¹ Like Comenius, Pestalozzi reacted against cruel and incompetent teachers who found in education a refuge from failure in other occupations. Such teachers lacked empathy and any sense of the educative process.²⁸²

²⁷⁷Gerald Lee Gutek, Pestalozzi and Education (New York: Random House, Inc., 1968), p. 11.

²⁷⁸Michael Heafford, Pestalozzi (London: Methuen & Co., Ltd., 1967), p. 11.

²⁷⁹Gutek, op. cit., pp. 28-29.

²⁸⁰Lewis Flint Anderson, Pestalozzi (New York: McGraw-Hill Book Company, Inc., 1931), p. 1.

²⁸¹Heafford, op. cit., p. 43.

²⁸²Ibid., p. 76.

The criticisms enounced by Pestalozzi extended beyond the failures of individual teachers. He saw in education an unwarranted degree of rigidity and artificiality.

Pestalozzi's criticism was far more basic and universal than the maltreatment of pupils in certain schools, for he accused the whole system -- both the methods and the content -- of having become fettered by routine and tradition, to the point where teaching had degenerated into cramming and where school subjects had become no more than a particular selection of facts to be learnt by heart. Teaching methods had become so rigid that they took into account neither the capacities of a child to learn what was placed in front of him, nor the purpose for which he was expected to do so.²⁸³

Essentially Pestalozzi objected to the bookishness of education which limited the use of the senses by presenting isolated bits of knowledge while ignoring the essentials of life. The result was schooling being unreal by isolating theory from action.²⁸⁴

Pestalozzi spoke for an education which emphasized the "expansion from within" rather than the "restriction from outside." He viewed education not as the depositing of knowledge but more as the development of potential. Consequently, he viewed teaching as being an art of human relations rather than simply another occupation.²⁸⁵

To facilitate his goals he offered the child-centered system which he referred to as the "method." His system directed that education should be for the child

²⁸³Ibid., p. 40.

²⁸⁴Gutek, op. cit., p. 104.

²⁸⁵Heafford, op. cit., p. 77.

rather than the child for education. Emphasis was placed on meeting the needs of the whole personality. Pestalozzi argued against perpetuating an educational system on a take it or leave it basis to which the student was obliged to adapt. Accordingly the "method" was designed to proceed from the simple to the complex during which time the teacher sought to determine the capacity of each student to arrive at a match between method and capacity. The use of the word capacity is not to be construed as identifying the child as a vessel into which knowledge is poured. Heafford suggests that Pestalozzi viewed the child not as a "rough-hewn stone" awaiting carving by parents and teachers but rather a seed "containing the essence of the child's intelligence and personality." Pestalozzi's belief in a duality comprised of heredity and environment sets well with such contemporary psychologists as Piaget.²⁸⁶

Guttek summarized Pestalozzi's doctrines with the following:

. . . (1) the source of evil lies in a distorted environment; (2) men may be ignorant, but they are capable of regeneration; (3) the true road to social reform lies in the peaceful processes of education; (4) genuine education cooperates in the development of man's natural moral, intellectual, and physical powers; (5) human development begins in the home circle and the child responds with gratitude to the loving care of the mother; (6) true education will produce economically self-sufficient individuals.²⁸⁷

²⁸⁶Ibid., pp. 41-49 & 86.

²⁸⁷Guttek, op. cit., p. 35.

The influence of home education is particularly sensed in Pestalozzi's Leonard and Gertrude. A brief examination of his work suggests the tenor of the "method."

. . . her whole scheme of education, which embraced a true comprehension of life itself. Yet she never adopted the tone of instructor toward her children; she did not say to them: "Child, this is your head, . . . your hand . . . -- but instead, she would say: "Come here, child, I will wash your little hands . . ."

. . . All that Gertrude's children knew, they knew so thoroughly that they were able to teach it to the younger ones . . . 288

Pestalozzi's influence on today's open educators is evident in such practices as family grouping and student-teacher relationships. Also, like modern day open educators, Pestalozzi was not content to merely criticize education, for he chose to demonstrate his theory. His schools at Neu Hof, Clindy, Stans, Burgdorf, and Yverdon were successful in method but failed for financial or political reasons.²⁸⁹

Throughout his experiments Pestalozzi emphasized two basic principles; the simple should precede the complex, and mastery at each stage must be complete before continuing. Accordingly Heafford suggests Pestalozzi would have supported the judicious use of contemporary instructional media.²⁹⁰ The art of teaching in Pestalozzi's view was to

²⁸⁸Johann Heinrich Pestalozzi, Pestalozzi's Leonard and Gertrude, trans. Eva Channing (Boston: D. C. Heath & Co., 1903), pp. 130-131.

²⁸⁹Heafford, op. cit., pp. 9-35.

²⁹⁰Ibid., p. 87.

provide the proper conditions and experiences wherein each student's potential could be fully developed. Pestalozzi also held a belief in the development of the whole personality. He held, as do contemporary psychologists, that students weak in certain subjects tend not to sublimate by excelling in athletics or other subjects. The bright student tends to excel in games and vice versa for the less capable student. Thus Pestalozzi advocated a system which attempted to develop to capacity a wide range of talents.²⁹¹

Through his work at Stans, Pestalozzi found verification in his belief that each child required emotional security before education could proceed. Both his attitude and actions are similar to A. S. Neill at Summerhill. Writes Gutek, "He still retained a belief in the self-activity of the learner. All learning came from innate powers which were stimulated by the environment."²⁹²

Pestalozzi demonstrated an interest in industrial education, as evidenced by his experiment at Clindy. He felt social concerns for the poor. Growing industrialization exploited the poor to the extent of losing their humanity. Their self-esteem had become destroyed by the narrowness and shallowness of their employment. Pestalozzi sought through vocational education to emancipate the poor by providing economic independence. It is noteworthy especially for

²⁹¹Ibid., pp. 45-48.

²⁹²Gutek, op. cit., pp. 39-41.

industrial educators that Pestalozzi strongly believed that industrial education was to be broad if it was deserving of the name education.²⁹³

"Industrial education is not the education of a single miserable factory skill. The true, but as yet unproven, aim of industrial education is essentially nothing more than the application of the whole of human education to the specific task of earning a living, and can only be called true industrial education if it is based on the full experience and whole range of human education itself."²⁹⁴

Pestalozzi felt strongly for a vocational education in the broadest sense. Anything less would result in "one slavishly trained for making a living."²⁹⁵ Likewise he opposed the separation of vocational education from general education. Such separation results, in Heafford's words, in "general education becoming divorced from life itself."²⁹⁶

The essential message left by Pestalozzi is the need for education to be nurtured in a climate of emotional security. Pestalozzi's heritage has become more, not less, relevant for today, particularly in the eyes of open educators.²⁹⁷ Like other great education leaders, Pestalozzi was not always fully understood by his followers.²⁹⁸

²⁹³Heafford, op. cit., pp. 79-80.

²⁹⁴Ibid., p. 81.

²⁹⁵Gutek, op. cit., p. 147.

²⁹⁶Heafford, op. cit., p. 87.

²⁹⁷Ibid., pp. 84-85.

²⁹⁸Gutek, op. cit., p. 158.

Pestalozzianism was carried to many countries by his followers. The ideals of Pestalozzi were brought to Oswego, New York, by Edward Sheldon and Herman Krusi, Jr., a chief assistant of Pestalozzi. The Oswego movement had the distinguishable Pestalozzian identity of education according to natural human development.²⁹⁹

Influence of Pestalozzi had a profound effect upon other American philosophers and educators. He surely inspired John Dewey and William Heard Kilpatrick among others.³⁰⁰

Friedrich Froebel

Froebel acknowledged inspiration from both Rousseau and Pestalozzi but also established points of departure. He differed from Rousseau who would isolate the child in order for nature to educate. Froebel believed that a carefully constructed environment of other children and understanding adults would be more educative.³⁰¹ Froebel sought an education which emphasized a far greater unity than did Pestalozzi. A multiplicity of relationships among knowledge, the individual and society, and the individual, God, and nature

²⁹⁹Will S. Monroe, History of the Pestalozzian Movement in the United States (New York: Arno Press & The New York Times, 1969), pp. 171-190.

³⁰⁰Gutek, op. cit., p. 166.

³⁰¹H. Courthope Bowen, Froebel and Education through Self-Activity (New York: Charles Scribner's Sons, 1913), p. 93.

were hallmarks in Froebel's method.³⁰² Concrete examples brought to school were characteristic of what Pestalozzi called the "object lesson." Froebel approved of reality over abstraction for children but feared such education could become debased if emphasis was placed upon the object rather than on the child. Also implicit with the object lesson is the connotation that knowledge is being transmitted to a receptive child. It seemed to Froebel that such strategies fell short of real educational potentials. He believed that possibilities for creativity needed to be better enhanced. Hughes suggested how Froebel capitalized upon creativity through the use of special materials called "gifts."

In ordinary objective work the child is receptive, Froebel made it creative; the schools give information, Froebel gave power; the schools allow the child to see, or at best to examine, the object, Froebel allowed it to use it; the schools ask the child what it can find out about the object, Froebel encouraged it to find what it could do with it; the schools sometimes permit the child to make a representation of the object, Froebel required it to transform it into some other form as an expression of an original thought of its own; the schools are satisfied with increasing the store of knowledge, or at best with enlarging faculty power, Froebel desired the assimilation of knowledge by using it as it is acquired, and exercised the whole productive intellect; the schools bring the outer material to the inner life of the child, Froebel led the child's inner life to dominate and transform its material environment.³⁰³

³⁰²Irene M. Lilley (ed.), Friedrich Froebel/A Selection from His Writings (Cambridge: Cambridge University Press, 1967), pp. 18-20.

³⁰³James L. Hughes, Froebel's Educational Laws for All Teachers (New York: D. Appleton and Company, 1911), pp. 251-252.

It is therefore not surprising to judge Pestalozzi as being somewhat more impetuous than the methodical Froebel. Bowen attempted to formulate the salient differences between Pestalozzi and Froebel with the following:

Broadly speaking, Pestalozzi's plan is one of observing and imitating; Froebel's, one of observing and inventing. To exercise the creative, originating powers of the child is Froebel's main object; to teach the child to speak and to do work already prescribed is largely the aim of Pestalozzi.³⁰⁴

Already eluded to was Froebel's strong belief of unity or inner connections among man, God, and nature. Unique to his writing was the frequent reference to crystals as being representative of a most perfect unity. His years of study of crystallography undoubtedly account for the significance he gave to crystals.³⁰⁵ Froebel so clearly discerned the need for unity in one's education. He sensed necessity for continuity in human growth and development. Like today's open educators Froebel strongly believed that the fullest development as an adult is only realized after the fullest possible development as a child. Therefore he appreciated the value of play in the development of young children, as did his predecessors.³⁰⁶

Out of Froebel's theory of unity for full development grew his belief in freedom. For Froebel, freedom was much more of an all pervasive concept than the narrowly

³⁰⁴Bowen, op. cit., p. 186.

³⁰⁵Lilley, op. cit., p. 15.

³⁰⁶Ibid., p. 38.

conceived absence of coercion or laissez-faire. Froebel argued that freedom in its fullest sense results only after being nurtured in the young. Freedom which is parceled to adults after years of coercive schooling is incomplete. Lack of one's freedom during the "plastic period" results in an insensitivity for a wide range of human experiences. Consequently, Froebel's method was a strong belief in the integrity and individuality of each child. Such beliefs endorse a child-centered curriculum which offers a wide range of opportunities to increase one's capacity for freedom. Froebel's terms of "equipment for freedom of choice" and "power of choice" suggest discriminative abilities to use freedom wisely in avoiding propaganda of all types.³⁰⁷

Froebel viewed development as being continuous provided proper conditions were available of which freedom was crucial.³⁰⁸ He wrote of the dangers when viewing development as being static.

It is unspeakably pernicious to look upon the development of humanity as stationary and completed, and to see in its present phases simply repetitions and greater generalizations of itself. For the child, as well as every successive generation, becomes thereby exclusively imitative, an external dead copy -- as it were, a cast of the preceding one -- and not a living ideal for its stage of development which it had attained in human development

³⁰⁷Evelyn Lawrence (ed.), Froebel and English Education (New York: Schocken Books Inc., 1969), pp. 225-229.

³⁰⁸Lilley, op. cit., p. 10.

considered as a whole, to serve future generations in all time to come.³⁰⁹

Development unfolded through an array of experiences as the individual gleaned greater self-consciousness at ever higher levels.³¹⁰ Thus Froebel wrote, ". . . let my aim be to give man himself."³¹¹ Lilley translates and interprets Froebel by declaring, "The boy's will must be made firm; it must become strong and enduring so that essential human qualities can be exercised and expressed . . ."³¹²

Unfortunately Froebel's quest for freedom may be misinterpreted as advocating unrestrained liberty. Clearly such was not the case. Froebel sought a balance between control and spontaneity in which harmony results. He demonstrated faith that children prefer to do right over wrong.³¹³ The question arises as how to explain why some children go astray. Lilley interprets Froebel to ascribe shortcomings of youth to two basic causes, failure to fully develop the child's potential and disruption of natural development. Froebel contended that man is essentially good but may do

³⁰⁹Friedrich Froebel, The Education of Man, trans. W. N. Hailmann (New York: D. Appleton and Company, 1891), p. 17.

³¹⁰Lilley, op. cit., p. 10.

³¹¹Emilie Michaelis and H. Keatley Moore (eds. and trans.), Autobiography of Friedrich Froebel (4th ed.; London: Swan Sonnenschein & Co., 1892), p. 49.

³¹²Lilley, op. cit., p. 122.

³¹³Hughes, op. cit., pp. 15-16.

wrong if the environment is inhospitable.³¹⁴ Such an inhospitable environment may be the work of adults. Educators themselves may unfortunately misinterpret the actions of youth by prematurely judging. Again the self-fulfilling prophecy results in children living up to expectations. Children come to be punished for faults which they learned from adults, including their teachers.³¹⁵ Indeed there is the sad danger that scars on teachers after a misdirected education may be revisited upon their students. A translation from Froebel's Ausgewählte Schriften speaks directly to the issue.

Must we hide from ourselves the never healing wounds which bleed all our life long, the calloused places in our hearts, or the dark ineradicable stains on our souls which are left when estimable thoughts and feelings are wiped away -- all the result of our misdirected youth? Can we not see in our hearts all the seeds of excellence which became withered and dead at that time? Will we not do this for our children's sake? We may hold an important office, be successful in our profession or business, and take pleasure in our profession or business, and take pleasure in our social refinement, but, in the moment when we confront ourselves alone, can all this spare us from the realization of gaps and discontinuities in our education or remove the feeling of incompleteness and imperfection caused mainly by our own early education?³¹⁶

How then did Froebel propose to offer an education which balanced between freedom and control without coercion? Examination of the literature reveals that freedom was not

³¹⁴Lilley, op. cit., pp. 132-133.

³¹⁵Ibid., pp. 135-136.

³¹⁶Ibid., pp. 158-159.

only to be used to develop individualism. He sought an education which united individual benefits with welfare of others. One's education was not to be isolated. Instead brotherhood of man was to be nurtured through cooperative behavior. Each student demonstrates respect for the rights of others through self-control. Teachers are not to impose self-control but rather create an educational environment which allows each child to sense personal advantage when respecting the rights of others. The concept of unity suggests that each individual has a vested interest in the welfare of the group.³¹⁷ Quite evident then is Froebel's belief in the necessity for self-contemplation, self-analysis, and self-education. He believed that education should be founded on a system which provides students with pleasure and power to work uninterrupted.³¹⁸ For such results to occur, it becomes crucial that each student's "beginnings" be right in order that further growth not be hindered.³¹⁹

The question then arises as to the function of the school and the role of the teacher. Froebel spoke of what the school should and should not be. For him the school's task was not simply a place where information was imparted. Hughes provides insight when he describes Froebel's system, "He revealed the fact that education is a work of growth carried on by and through the child, and not merely for

³¹⁷Hughes, op. cit., pp. 16-27.

³¹⁸Lilley, op. cit., p. 33.

³¹⁹Lawrence, op. cit., pp. 190-194.

it."³²⁰ Therefore in Froebel's view separation of subjects was inconsistent with growth through unity. Froebel believed that the student was first to know himself, then God, and finally nature. Language was essential to make such connections for unity.³²¹

Froebel wrote, "School, then, means here by no means the school-room, nor school-keeping, but the conscious communication of knowledge, for a definite purpose and in definite inner connection . . ."³²² It is important to note that Froebel clarified his intent when he further declared, "To give firmness to the will, to quicken it, and to make it pure, strong, and enduring, in a life of pure humanity, is the chief concern, the main object in the guidance of the boy, in instruction and the school."³²³

Therefore Froebel believed that students can only truly learn if they feel the need to learn. Lilley provides a translation of Froebel on this issue.

It should always happen that teaching and instruction are connected with a need really felt by the boy. It is also absolutely necessary that this need should have been previously developed in a definite context before the boy can be instructed with any advantage or success. Here is a main cause of so many deficiencies in our schools and method of instruction. We teach our children without first arousing this need and, it may be, after we have

³²⁰Hughes, op. cit., p. 2.

³²¹Lilley, op. cit., pp. 139-141.

³²²Hailmann, op. cit., p. 95.

³²³Ibid., p. 96.

already destroyed what was in the child. How can such teaching be successful? . . .³²⁴

The need to truly understand each pupil was central to the teacher's task in Froebel's view when he wrote of "sharing the life."³²⁵ In addition to being empathic with students, Froebel believed the nature of the relationship was vital. He opposed the notion that the student's mind was like a tubula rosa or lump of clay waiting to be molded.³²⁶

We grant space and time to young plants and animals because we know that, in accordance with the laws that live in them, they will develop properly and grow well; . . . but the young human being is looked upon as a piece of wax, a lump of clay, which man can mold into what he pleases. O man, who roamest through garden and field, through meadow and grove, why dost thou close thy mind to the silent teaching of nature?³²⁷

Froebel preferred to think of children as plants and teachers as gardeners. The school environment was to provide good soil for growth through understanding and encouragement.³²⁸ Educational growth was accomplished through living, doing, and knowing which Froebel considered coincidental.³²⁹

³²⁴Lilley, op. cit., p. 153.

³²⁵Ibid., p. 35.

³²⁶Ibid., pp. 182-190.

³²⁷Hailmann, op. cit., p. 8.

³²⁸Lawrence, op. cit., p. 195.

³²⁹Lilley, op. cit., p. 43.

Self-activity was considered by Froebel as being an essential process in his belief of unity. Spontaneity, interest, and appreciation, declared Froebel, are essential for true self-activity.³³⁰ Consequently, Froebel believed quite strongly in industrial education to enhance his view of self-activity. There is an abundance of literature to suggest Froebel was an ardent supporter of manual training. It is important to note that he valued manual training not for furnishing skilled workmen to serve man power needs but rather to serve the educational needs of the individual. He appreciated the skill and knowledge manual training offered but insisted the transformation taking place in the individual, his selfhood, was more important than visible results. Froebel cautioned against an educational system which only transmitted knowledge. He sought a total unified education in which children could both mentally and physically react as they reasoned and reflected. For Froebel there were no taxonomies of the domains. To realize his aspirations for manual training Froebel argued that the production of character was obviously more important than the production of goods.³³¹ Froebel, in the words of Hughes, realized "that what is philosophically true must at the same time be the most practical."³³² Unfortunately the utilitarian value of

³³⁰Hughes, op. cit., pp. 6-8.

³³¹Ibid., pp. 248-255.

³³²Ibid., p. 22.

manual training tempted educators to first offer it to only the older students. Froebel argued for just the opposite. He contended the education of children is best served when manual training is first provided at an early age.³³³ Recent curricular innovation tends to support Froebel's views especially in the case of career education.

Froebel's beliefs have surely had a profound effect upon industrial education. Uno Cygnaeus was so taken with Froebel's views that in 1866 he introduced sloyd as a compulsory study throughout Finland. As the forerunner of industrial arts, sloyd spread throughout the Scandinavian countries with the additional efforts of Herr Salomon.³³⁴

Froebel's leadership in the kindergarten movement continues to have a powerful effect. Today the National Froebel Foundation influences the educational system throughout Great Britain, as evidenced by the informal education movement. Dr. Evelyn Lawrence, as Director of the National Froebel Foundation, acknowledges that not all are able or willing to accept Froebel's ideas.

Is [sic] is a matter partly of judgment, partly of temperament. The subtle adjustments needed for a method based on giving scope for the movements of other minds, the rhythms of other lives, the initiative of other wills, are not easy for every teacher. The theory takes some understanding, and the method some mastering. Certain people are temperamentally hostile to it. They like to dominate, or they fear a system which is not neat, cut and dried. They prefer to be anchored continuously to text-books, to prepared lessons and safe syllabuses and

³³³Ibid., p. 23.

³³⁴Bowen, op. cit., pp. 190-191.

time-tables. Others reflect on the vast quantities of knowledge which are there to be imparted, and assiduously cut it up into little chunks and feed it in, unable to trust the children's spontaneous appetites. Yet, again, freer methods have to be defended from some of their wilder friends. Many teachers have taken one look into the bear-garden which a "free" school can become in the wrong hands, and have returned in horror, the more moderate ones to their mark lists and formal lessons, the diehards to their detentions and their canes.³³⁵

It is not enough to simply remember Froebel as the father of the kindergarten movement or as a link of inspiration between Pestalozzi and John Dewey. To this day Froebel directly effects education as evidenced by the aforementioned National Froebel Foundation.

John Dewey

Reportedly, John Dewey's last published words were ". . . of the good that has been attained by the progressive education movement and of the better that is to come."³³⁶ Undoubtedly, open educators contend that their fare realizes Dewey's pronouncement. Sidney Hook, as a present day spokesman for John Dewey, argues that Dewey is being misinterpreted by the more radical wing of open education. Thus, says Hook, it is unwarranted for such individuals to claim credence to their views by trying to establish affinity with Dewey.³³⁷

³³⁵Lawrence, op. cit., pp. 12-13.

³³⁶John Dewey and Evelyn Dewey, Schools of Tomorrow (New York: E. P. Dutton & Co., Inc., 1962), p. xix.

³³⁷Sidney Hook, "John Dewey and His Betrayers," Change in Higher Education, III (November, 1971), 22-26.

The work of Dewey must be carefully and thoroughly read to appreciate his views. To remember Dewey as the advocate of "learning by doing" is too simplistic after reviewing the perceptive depth and diversity of his beliefs.

Dewey acknowledged his indebtedness to his predecessors including Rousseau and Froebel. Like Froebel, Dewey believed the school must be connected with life rather than become isolated with bits and pieces. An "organic whole" or unity must prevail.³³⁸ It would be erroneous to contend that Dewey simply advocated the new or progressive over the old or traditional education. Rather he earnestly sought that which is "worthy of the name education" wherever it is found.³³⁹ As a pragmatist, Dewey continuously spoke out against the Either-Or fallacy. As subsequently documented, Dewey believed that education could serve both individual and societal needs while centering around both the child and subject matter.

Dewey judged many of Rousseau's ideas foolish but agreed that education cannot be forced into the child but rather is the realization of inherent capacities through growth.³⁴⁰ For Dewey it was not sufficient to simply view education as a drawing out process. The child is no more

³³⁸John Dewey, The School and Society (Chicago: University of Chicago Press, 1899), pp. 80-81.

³³⁹John Dewey, Experience and Education (New York: Collier Books, 1963), p. 90.

³⁴⁰Dewey, Schools of Tomorrow, p. 1.

passive when education is being drawn out than when it is being poured in.

He is already running over, spilling over, with activities of all kinds. He is not a purely latent being whom the adult has to approach with great caution and skill in order gradually to draw out some hidden germ of activity. The child is already intensely active, and the question of education is the question of taking hold of his activities, of giving them direction.³⁴¹

In addition Dewey went on to assert his belief that education was not simply an unfolding process either. Unfolding denotes an anticipation of results. Rather Dewey spoke of the child as having "special impulses of action to be developed through their use in preserving and perfecting life in the social and physical conditions under which it goes on."³⁴² Dewey found merit in Rousseau's contention for natural development as the mind and body acted together.³⁴³

Like today's open educators, Dewey believed that "ripening" takes time and hurrying education is harmful. Childhood play has educational value in that it is not as aimless as it appears to some adults.³⁴⁴ Consequently, Dewey advocated an educational system consistent with natural growth and development of children. Such an educational system was viewed by Dewey as simpler but certainly not easier to implement.³⁴⁵

³⁴¹Dewey, The School and Society, p. 37.

³⁴²Dewey, Schools of Tomorrow, p. 118.

³⁴³Ibid., p. 209.

³⁴⁴Ibid., pp. 4-5.

³⁴⁵Dewey, Experience and Education, p. 30.

For Dewey there was no such thing as education which was valid in and of itself as though self-justified. Such misconceptions, contended Dewey, resulted in "predigested materials" common to traditional education. Like John Holt, Dewey noted how children frequently failed to ingest the traditional curricular diet. Dewey suggested failure might better be attributed to the curriculum rather than the children.³⁴⁶ Dewey wrote of the futility of forcing bulk information upon children. Quantity of information was viewed as less important than arousing in children a sense of motive and purpose.

What is wanted is that pupils shall form the habit of connecting the limited information they acquire with the activities of life, and gain ability to connect a limited sphere of human activity with the scientific principles upon which its successful conduct depends. The attitudes and interests thus formed will then take care of themselves.³⁴⁷

Dewey was distressed with the sameness of schools in which children were treated "en masse" rather than as individuals. He rejected a system which artificially determined content, divided same by time available, and presented such content to all students by the same methods. Dewey satirized such systems which attempt to meet curricular schedules step by step if only children cooperate by remembering what was supposedly "learned." Uniformity of curricular

³⁴⁶Ibid., p. 46.

³⁴⁷Dewey, Schools of Tomorrow, pp. 178-179.

structure provided virtually no opportunity for "varying capacities and demands."³⁴⁸

Dewey continued his criticism of traditional schools which "could get along without any consistently developed philosophy of education." Some schools traditionally proclaim vague generalities of purpose, such as cultural heritage, while continuing practices counter to natural growth and therefore definitely not in the best interest of children.³⁴⁹ Dewey noted how schools traditionally ignore "personal impulse and desire" as opportunities for learning in the classroom. It is also quite noteworthy that Dewey followed by cautioning against valuing impulse as the sole criteria in curricular planning.³⁵⁰ Teachers make a serious mistake if they ignore planning in the quest for student motivation through impulse. Such strategies are capricious and thus unlikely to foster real education. Serendipity is realized by intelligent planning for such opportunities -- not by a lack of planning.³⁵¹

Justifying the traditional curriculum as being preparation for the future is a "treacherous idea," wrote Dewey. He rejected the belief that the "mere acquisition" of an amount of certain subjects while in school prepared one for the future. Dewey stated, "Indeed, he is lucky who does not

³⁴⁸Dewey, The School and Society, pp. 33-34.

³⁴⁹Dewey, Experience and Education, pp. 28-29.

³⁵⁰Ibid., pp. 70-71.

³⁵¹Ibid., p. 58.

find that in order to make progress, in order to go ahead intellectually, he does not have to unlearn much of what he learned in school."³⁵² Like his predecessors, Dewey believed the surest way a child can prepare for the future is to experience the present to the fullest. He wrote,

Strange would it be, indeed, if intelligent and serious attention to what the child now needs and is capable of in the way of a rich, valuable, and expanded life should somehow conflict with the needs and possibilities of later, adult life.³⁵³

Dewey described how it is redundant to view education as preparation for life whereas one is already experiencing life. Indeed real education and life are inseparable. Consequently, Dewey strongly believed that it was crucial to provide the most meaningful experiences during the school years. He wrote,

Because traditional schools tended to sacrifice the present to a remote and more or less unknown future, therefore it comes to be believed that the educator has little responsibility for the kind of present experiences the young undergo.³⁵⁴

At this point Dewey in effect cited the interrelation between the cognitive and affective domains. He declared it is a fallacy to believe the student only learns the "particular thing he is studying." Attitudes are concomitant to any subject at hand, and of these the most important is the desire to continue learning.³⁵⁵

³⁵²Ibid., p. 47.

³⁵³Dewey, The School and Society, p. 54.

³⁵⁴Dewey, Experience and Education, p. 49.

³⁵⁵Ibid., pp. 47-48.

Dewey contended that an educational system centered on experiences was considerably more difficult than a traditional content-centered curriculum. Narrowly conceived content-centered curricula can ignore the society surrounding the student. He believed that a truly progressive education was obliged to fully exploit potentials for experience which is rather demanding.³⁵⁶ Again Dewey made a plea against the Either-Or philosophies which held contempt for the organization of knowledge in the quest to provide experiences. An experience-centered curriculum does not mean an absence of order or aimless pursuits. To the contrary, Dewey argued,

Intelligent activity is distinguished from aimless activity by the fact that it involves selection of means -- analysis -- out of the variety of conditions that are present, and their arrangement -- synthesis -- to reach an intended aim or purpose.³⁵⁷

An attempt to direct students toward meaningful experiences does not imply concentration solely on the present and future while ignoring the past, wrote Dewey. To fully understand the present while anticipating the future requires an appreciation of the past. Dewey noted that our present social problems did not occur overnight.³⁵⁸

Dewey believed there was too much confusion over the meaning of experience in education. He viewed it too simplistic to contend progressive education emphasized experiences while traditional education was devoid of experiences.

³⁵⁶Ibid., p. 40.

³⁵⁷Ibid., pp. 82-84.

³⁵⁸Ibid., pp. 75-77.

Any curriculum provides experiences, but unfortunately they can be of the wrong kind. It is therefore crucial that the experiences be educative rather than mis-educative. Dewey believed an educative experience was one which fostered growth through subsequent experience. Additionally it is important to identify the meaning of growth through its direction including societal outcomes. Parenthetically Dewey warned that sheer activity of experience was not the criteria for education but rather the quality of the experience.³⁵⁹

Consequently, the word "habit" held special importance for Dewey. It was Dewey's contention that habit implied more than routine or established patterns of behavior elicited by experiences. He believed that experiences modified the individual to such an extent as to impinge upon reception of subsequent experiences. In other words, our reaction to each new experience is affected by previous experiences. Likewise habits include our attitudes or sensitivity to experiences. Therefore educators must demonstrate an awareness of the impact of each new experience as its present and future effect upon each student.³⁶⁰

Consistent with his belief in importance of habits, Dewey argued against subjects which were taught as ends in themselves. Isolated subjects lacked unity and ignored the effect upon students. Opportunities were lost to connect

³⁵⁹Ibid., pp. 25-36.

³⁶⁰Ibid., p. 35.

schooling with the realities of life and all the potential for educative experiences.³⁶¹ Dewey held the opinion that educational reform would be unrealized as long as knowledge was viewed as "ready-made" for which language allowed access to the fund. He pointed out that to attack "pouring-in methods" was futile while the body of knowledge concept prevailed. Education would be reduced to a passive role until students were encouraged to strike out for themselves in the quest of knowledge.³⁶² Such an attitude of growth through education impinged on media in the schools, declared Dewey.³⁶³ While he didn't agree with all of Marie Montessori's methods, he did approve of the self-corrective material she employed. Through comparisons her students came to develop the senses and their self-reliance.³⁶⁴

Dewey accepted the impossibility of the schools teaching all facts. More so he contended that such was not their responsibility anyway. He wrote that it was far more important for students to learn how to learn and therefore the sooner schools accept this truth the better for education.³⁶⁵ Therefore an implication toward developing healthy attitudes is strongly suggested in which students feel the desire to continue learning during and after school years.

³⁶¹Dewey, Schools of Tomorrow, p. 125.

³⁶²Ibid., pp. 172-173.

³⁶³Dewey, The School and Society, p. 37.

³⁶⁴Dewey, Schools of Tomorrow, p. 115.

³⁶⁵Ibid., p. 221.

Formal educational experiences should foster the desire for additional learning -- not inhibit such desire. Dewey noted with chagrin that just the opposite reaction tends to prevail whereby individuals with little schooling appear to desire learning more than those with greater education.³⁶⁶

Very much like today's informal educators in Great Britain, Dewey contended it was not enough to simply teach children to read. Attitudes are so important. To teach a child to read without encouraging him to read that which is valuable is a dereliction of duty, wrote Dewey. He asked what children will read when free of direct influence of the school.³⁶⁷

Dewey compared traditional education with natural growth. He cited the former's goal of exhibitiv quantities of information in contrast to more personal qualities of knowledge. For Dewey and today's open educators, knowledge is idiosyncratic. He felt teachers are deceiving themselves when believing they are covering ground in some sort of pedantic mania. Unfortunately the deception is encouraged when students reflect back information to please their teachers. Dewey agreed with Rousseau that deep probing will disclose that while teachers believe they are teaching the world the student is "only learning the map." In Dewey's view,

³⁶⁶Dewey, Experience and Education, p. 48.

³⁶⁷Dewey, Schools of Tomorrow, p. 176.

educators must cease the futile attempt to lay out all of man's accumulated knowledge before the young.³⁶⁸

We must substitute for this futile and harmful aim the better ideal of dealing thoroughly with a small number of typical experiences in such a way as to master the tools of learning, and present situations that make pupils hungry to acquire additional knowledge. By the conventional method of teaching, the pupil learns maps instead of the world -- the symbol instead of the fact. What the pupil really needs is not exact information about topography, but how to find out for himself. "See what a difference there is between the knowledge of your pupils and the ignorance of mine. They learn maps; he makes them." To find out how to make knowledge when it is needed is the true end of the acquisition of information in school, not the information itself.³⁶⁹

As an educational reformer, Dewey observed the radical changes taking place in society and argued that schools must similarly undergo a radical change. Otherwise schools would become isolated from life and only exist for their own sake.³⁷⁰

From the standpoint of the child, the great waste in the school comes from his inability to utilize the experience he gets outside the school in any complete and free way within the school itself; while, on the other hand, he is unable to apply in daily life what he is learning at school. That is the isolation of the school -- its isolation from life. When the child gets into the schoolroom he has to put out of his mind a large part of the ideas, interests, and activities that predominate in his home and neighborhood. So the school, being unable to utilize this everyday experience, sets painfully to work, on another tack and by a variety of means, to arouse in the child an interest in school studies.³⁷¹

³⁶⁸Ibid., pp. 9-10.

³⁶⁹Ibid., pp. 12-13.

³⁷⁰Dewey, The School and Society, pp. 26-27.

³⁷¹Ibid., p. 67.

Dewey believed that a great deal of the difficulty arose when schools fail to attend to the social aspects of life. All must learn to live together. Consequently, schools need to work upon real problems of society. Dewey charged that schools have selected the abstract rather than the concrete. Emphasis is placed upon individual accomplishments for an "every-man-for-himself" society which no longer exists. Such selfish, unsocial curricula attempt to offer culture which is actually superficial and rather banal. Education should not be designed to selfishly beat out others. Dewey wrote that schools must be democratic in the fullest sense.³⁷² Dewey argued that it is not enough to promote democracy in education simply because a democracy depends upon the ability of the masses to elect and obey elected officials. Interest in the common good must grow out of a "voluntary disposition" rather than external imposition. Dewey believed the case for democratic education was even greater.

A democracy is more than a form of government; it is primarily a mode of associated living, of conjoint communicated experience. The extension in space of the number of individuals who participate in an interest so that each has to refer his own action to that of others, and to consider the action of others to give point and direction to his own, is equivalent to the breaking down of those barriers of class, race, and national territory which kept men from perceiving the full import of their activity.³⁷³

³⁷²Dewey, Schools of Tomorrow, pp. 121-127.

³⁷³John Dewey, Democracy and Education (New York: The Macmillan Company, 1926), p. 101.

However, schools continue to emphasize competitive rather than cooperative behavior. Dewey wrote of the discrepancies between a purported democratic society and its schools.

Indeed, almost the only measure for success is a competitive one, in the bad sense of that term -- a comparison of results in the recitation or in the examination to see which child has succeeded in getting ahead of others in storing up, in accumulating, the maximum of information. So thoroughly is this the prevailing atmosphere that for one child to help another in his task has become a school crime.³⁷⁴

In Dewey's view, schools must not simply become holding stations for youth. Such is the effect as long as schools remain isolated from society. The trend can be replaced when the community demands that the schools become an active contributor to the community's welfare.³⁷⁵ This is not to say education should not simply prepare students for their slots in society. Dewey differed with Plato whose emphasis was toward the welfare of the whole of society rather than its members. Dewey criticized the Platonic system when he wrote, "An education could be given which would sift individuals, discovering what they were good for, and supplying a method of assigning each to the work in life for which his nature fits him." Such a system promoted roles and classes while ignoring the uniqueness and aspirations of individuals.³⁷⁶

³⁷⁴Dewey, The School and Society, p. 13.

³⁷⁵Dewey, Schools of Tomorrow, p. 128.

³⁷⁶Dewey, Democracy and Education, p. 103.

Perhaps communities don't always demand much from their schools, but many pupils are not so complaisant. Such students come to find additional schooling useless and thus choose to drop out. Dewey wrote,

. . . school seemed so futile and satisfied so few of their interests that they seized the first opportunity to make a change to something that seemed more real, something where there was a visible result.³⁷⁷

Dewey wrote in 1915 of the exceptional school system in Gary, Indiana. He applauded the Gary attitude toward dropouts. Students who were having difficulty in school were not made to feel stupid nor were they punished. Attempts were made to solve the problem. Even if the students chose to drop out they were made to understand they would be welcome back in the Gary schools at any time to continue their formal education.³⁷⁸

Like contemporary open educators, Dewey asserted that at best only a small portion of each person's education takes place in school. Most meaningful education is informal as the individual meets the realities of life. Unfortunately society tends to assign an individual's station in life by the extent of his formal education rather than his informal education. So much informal education is a form of self-preservation as in the case of infants and later adults. Dewey contended that the solution to the problem is not to

³⁷⁷Dewey, Schools of Tomorrow, p. 223.

³⁷⁸Ibid., p. 192.

abolish formal schooling but rather adopt a model complimentary to natural growth.³⁷⁹

But schools are always proceeding in a direction opposed to this principle. They take the accumulated learning of adults, material that is quite unrelated to the exigencies of growth, and try to force it upon children, instead of finding out what these children need as they go along.³⁸⁰

When schools seek to nurture natural growth, the role of the teacher changes from that found in many schools. The teacher comes to assume the role of guide and helper rather than dictator. Dewey suggested that the role of students also changes from passive to active experimenter.³⁸¹ He believed that the attitudes of students must change away from "one of docility, receptivity, and obedience." Likewise both teachers and students come to repute knowledge as static.³⁸² Dewey argued against an educational system emphasizing stored up information through the use of memory. The likelihood of totally meeting standards is virtually impossible and thus a negative influence which tends to lead to cheating. Likewise the grading system stagnates the proper role of the schools. Dewey wrote,

Rewards and high marks are at best artificial aims to strive for; they accustom children to expect to get something besides the value of the product for work they do. The extent to which schools are compelled to rely upon these motives

³⁷⁹Ibid., pp. 1-2.

³⁸⁰Ibid., p. 2.

³⁸¹Ibid., p. 126.

³⁸²Dewey, Experience and Education, pp. 18-19.

shows how dependent they are upon motives which are foreign to truly moral activity.³⁸³

The traditional school environment suggests and encourages docility. Dewey objected to the furniture arrangement and general appearance of traditional schools. He wrote, "It is all made 'for listening' because simply studying lessons out of a book is only another kind of listening; it marks the dependency of one mind upon another."³⁸⁴

Open educators' attitude toward school discipline resembles Dewey's. He argued against discipline which was imposed upon children. The futility of such tactics, he charged, became evident when the external force was removed and children return to objectionable behavior.³⁸⁵ Real discipline is self-discipline. Dewey wrote, "Discipline, in short, is ability to do things independently, not submission under restraint."³⁸⁶ He believed that real discipline is that which is natural. Dewey explained that social discipline results when children are permitted to engage in group activities and thus adopt cooperative behavior.

If you have the end in view of forty or fifty children learning certain set lessons, to be recited to a teacher, your discipline must be devoted to securing that result. But if the end in view is the development of a spirit of social co-operation and community life, discipline must grow out of and be relative to such an aim. . . . In critical

³⁸³Dewey, Schools of Tomorrow, pp. 213-215.

³⁸⁴Dewey, The School and Society, p. 32.

³⁸⁵Dewey, Schools of Tomorrow, pp. 98-99.

³⁸⁶Ibid., p. 106.

moments we all realize that the only discipline that stands by us, the only training that becomes intuition, is that got through life itself.³⁸⁷

If Dewey was a critic of certain practices in traditional schools, he also frequently criticized so-called progressive schools. He strongly believed in democracy and therefore concluded that schools likewise needed to be democratic and humane. Dewey found inconsistencies between autocratic school practices and the democratic ideal.³⁸⁸

If we train our children to take orders, to do things simply because they are told to, and fail to give them confidence to act and think for themselves, we are putting an almost insurmountable obstacle in the way of overcoming the present defects of our system and of establishing the truth of democratic ideals. Our State is founded on freedom, but when we train the State of tomorrow, we allow it just as little freedom as possible.³⁸⁹

It is worthy of note that Dewey did not promote un-directed freedom in place of teacher domination. He argued that there is middle ground in which the teacher should offer direction which fits in the student's growth.³⁹⁰

Education which treats all children as if their impulses were those of the average of an adult society . . . is sure to go on reproducing that same average society without even finding out whether and how it might be better.³⁹¹

³⁸⁷Dewey, The School and Society, p. 14.

³⁸⁸Dewey, Experience and Education, pp. 33-34.

³⁸⁹Dewey, Schools of Tomorrow, p. 219.

³⁹⁰Dewey, The School and Society, pp. 124-126.

³⁹¹Dewey, Schools of Tomorrow, p. 102.

It is important to appreciate that Dewey did not advocate liberalization of freedom of movement when pupils remained shackled by the traditional curriculum.

For in a classroom where the teacher is doing all the work and the children are listening and answering questions, it would be absurd to allow the children to place themselves where they please, to move about, or to talk. Where the teacher's rôle has changed to that of helper and observer, where the development of every child is the goal, such freedom becomes as much a necessity of the work as is quiet where the children are simply reciting.³⁹²

Dewey advocated greater freedom in the schools, but it is important to fully appreciate what he meant by freedom. He did not simply advocate freedom of movement, for this is only a means. He believed what really endures is freedom of intelligence -- the opportunity and ability to engage in reflection -- to be your own maker of meaning. "The old phrase 'stop and think' is sound psychology."³⁹³

It is not surprising to find that Dewey gave particular attention to industrial education and the other practical arts. Consequently, his views have ramifications for educational reform as it applies to industrial education.

When Dewey asserted that education had not kept pace with the changing society, he gave particular attention to the dramatic transformation from an agrarian to an industrial society. A part of the reality of twentieth century

³⁹²Ibid., p. 104.

³⁹³Dewey, Experience and Education, pp. 60-63.

America was industrial and thus he believed schools must reflect such impact in the curriculum.³⁹⁴ However, it would be erroneous to prematurely conclude that Dewey desired industrial education simply because it represents a facet of American life. He found in industrial education not only an opportunity for desirable activities but also educational values for discovering interaction between means and ends. In other words, industrial education is not only a subject but also a sound educational method.³⁹⁵ Speaking of the implementation of "so-called manual training," Dewey wrote,

This has not been done "on purpose" with a full consciousness that the school must now supply that factor of training formerly taken care of in the home, but rather by instinct, by experimenting and finding that such work takes a vital hold of pupils and gives them something which was not to be got in any other way.³⁹⁶

Consequently, he argued that practical education should be integrated with academic education. Otherwise the results would be contrary to democratic education.³⁹⁷ Dewey acknowledged that the stigma attached to working with the hands was a vestige leftover from the aristocratic and feudal countries which promoted the so-called "liberal" education.³⁹⁸

When occupations in the school are conceived in this broad and generous way, I can only stand lost

³⁹⁴Dewey, Schools of Tomorrow, p. 174.

³⁹⁵Dewey, Experience and Education, p. 85.

³⁹⁶Dewey, The School and Society, p. 10.

³⁹⁷Dewey, Schools of Tomorrow, p. 226.

³⁹⁸Ibid., p. 168.

in wonder at the objections so often heard, that such occupations are out of place in the school because they are materialistic, utilitarian, or even menial in their tendency. It sometimes seems to me that those who make these objections must live in quite another world.³⁹⁹

Again Dewey returned praise to the Gary, Indiana, schools which provided technical high schools. He pointed out that adolescents desire staying in school when the curriculum meets their needs and aspirations. Dewey also applauded the Cincinnati, Ohio, schools which introduced manual and industrial training. He was pleased that Cincinnati did not offer narrow trade training but rather broad understandings from which students could make intelligent vocational choices.⁴⁰⁰

Dewey frequently advocated the study of occupations but not in the narrow, contemporary sense of the word. He meant an activity which "runs parallel to some sort of work carried on in social life." It is noteworthy that he insisted that such study "maintains a balance between the intellectual and practical phases of experience."⁴⁰¹ Dewey looked to the effects of industrial society and concluded that workers had become depersonalized machines by which they lost both imagination and insight.

At present, the impulses which lie at the basis of the industrial system are either practically neglected or positively distorted during the school

³⁹⁹Dewey, The School and Society, p. 21.

⁴⁰⁰Dewey, Schools of Tomorrow, pp. 199-204.

⁴⁰¹Dewey, The School and Society, p. 131.

period. Until the instincts of construction and production are systematically laid hold of in the years of childhood and youth, until they are trained in social directions, enriched by historical interpretation, controlled and illuminated by scientific methods, we certainly are in no position even to locate the source of our economic evils, much less to deal with them effectively.⁴⁰²

It was particularly for this reason Dewey was impressed with the Gary schools for not placating to manpower needs of industry but rather served the industrial education needs of the individual.⁴⁰³ He believed the youth have a profound need to study the economic and industrial problems of our society.⁴⁰⁴

The method Dewey proposed embraced student activity which necessitated greater freedom.⁴⁰⁵ He rejoiced over the active, buoyant atmosphere of home economics students involved in their work.⁴⁰⁶ It is a curious fact that Dewey wrote of the educational value of "messing around" in much the same fashion as does John Holt today. Dewey sincerely believed that when students play with materials they also play with ideas.⁴⁰⁷ Therefore he addressed himself to the matter of interest as it applies to occupational education. Dewey was sensitive to the issues arising when the curriculum

⁴⁰²Ibid., p. 22.

⁴⁰³Dewey, Schools of Tomorrow, p. 129.

⁴⁰⁴Dewey, Experience and Education, p. 80.

⁴⁰⁵Dewey, Schools of Tomorrow, p. 213.

⁴⁰⁶Dewey, The School and Society, p. 12.

⁴⁰⁷Ibid., p. 39.

is designed to appeal to the interest of pupils. Certain interests are temporal, trivial, and even harmful while other interests are enduring, meaningful, and healthy. Dewey sought curriculum which appealed to the interest of pupils but not in a narrow and shallow sense. He contended that the curriculum should have natural appeal because "children are interested in the things they need to learn."⁴⁰⁸ Again it is the argument between serving the child's wants or his needs. For Dewey the contest was artificial and unwarranted. Clearly the child's needs are his wants. Dewey suggested that an interest in occupations is natural for pupils and very educative. The beauty of such interests is the appeal to spontaneity without the fear such occupational interests are "merely pleasure-giving, exciting, or transient."⁴⁰⁹ He contended spontaneity enhanced a progressive curriculum and need not be feared as "nuisances to be repressed."⁴¹⁰

Dewey campaigned for the study of occupations to be integrated with the rest of the curriculum. He contended that the spirit of the school would thus be regenerated to become a model community. Apparently Dewey thought of openness in much the same way as today's open educators when he wrote, "It is this liberation from narrow utilities, this openness to the possibilities of the human spirit, that

⁴⁰⁸Dewey, Schools of Tomorrow, p. 217.

⁴⁰⁹Dewey, The School and Society, p. 135.

⁴¹⁰Dewey, Schools of Tomorrow, p. 104.

makes these practical activities in the school allies of art and centers of science and history."⁴¹¹

Although Dewey foresaw great opportunities for industrial education, he also spoke out against potential shortcomings. He argued against "narrow so-called practical education" which in its reactionary quest against an overly bookish education tended to become isolationistic.⁴¹² "We must conceive of work in wood and metal, of weaving, sewing, and cooking, as methods of living and learning, not as distinct studies."⁴¹³ Dewey warned that industrial education escapes its potential by directing attention toward prescribed activities. The focus should be upon the pupil rather than toward tools and industrial processes.

In such cases the work is reduced to a mere routine or custom, and its educational value is lost. This is the inevitable tendency wherever, in manual training for instance, the mastery of certain tools, or the production of certain objects, is made the primary end, and the child is not given, wherever possible, intellectual responsibility for selecting the materials and instruments that are most fit, and given an opportunity to think out his own model and plan of work, led to perceive his own errors, and find out how to correct them -- that is, of course, within the range of his capacities.⁴¹⁴

Dewey spoke out against industrial education, which modeled itself after the repetitiousness of industry and its "soulless monotony." He sought a curriculum which

⁴¹¹Dewey, The School and Society, pp. 15-16.

⁴¹²Dewey, Schools of Tomorrow, p. 180.

⁴¹³Dewey, The School and Society, p. 11.

⁴¹⁴Ibid., p. 132.

accentuated "intellectual independence" to adjust to the everchanging technology.⁴¹⁵

So much has been said of Dewey's belief in learning by doing that it is helpful to understand what he meant. It is true he advocated learning by doing in order to become sensitive to and involved with the environment. However, doing does not simply mean continuous physical activity. Opportunity must also be provided for reflection. It is important that the student be personally involved in his schooling whether the situation is physical activity or not. Clearly this implies both physical and intellectual freedom. Dewey wrote, "Most doing will lead only to superficial muscle training if it is dictated to the child and prescribed for him step by step."⁴¹⁶

As in the case of the Gary schools he praised, Dewey urged that industrial education not simply attempt to produce "breadwinners." The welfare of the individual supercedes that of industry. Consequently, Dewey believed the school shops not only represent local industry but rather the wider scope of industry. Thus students should explore many areas to further their experience.⁴¹⁷ In fact Dewey argued against staying in any one area too long especially

⁴¹⁵John Dewey, "The Need of an Industrial Education in an Industrial Democracy," Manual Training and Vocational Education, XVII (February, 1916), 412.

⁴¹⁶Dewey, Schools of Tomorrow, p. 104.

⁴¹⁷Ibid., pp. 180-195.

for younger children. He cautioned, "Any manual labor ceases to be educative the moment it becomes thoroughly familiar and automatic."⁴¹⁸ Dewey was adamant in his opposition of narrow trade training. He decried trade education for young children who were too young to make wise vocational choices. Unfortunately such students are "drilled in a narrow groove" until they become locked in to an occupation. Dewey believed individuals must have greater options if they are to be free of becoming "fixed classes." Education, he believed, should narrow the "gulf" between peoples in a democracy.⁴¹⁹ Therefore Dewey spoke out against any form of education, including industrial education, which divorced skills from their social impact. Such separation, in Dewey's words, is "fairly criminal." Dewey's warning seems so timely in view of the ravages of the environment.⁴²⁰

Other writers also began to express views similar to John Dewey's. A partial list includes Harold Alberty, Boyd Bode, John Childs, George Counts, Gordon Hullfish, William Kilpatrick, and Harold Rugg. Although each writer contributed to the progressive education movement, it seems appropriate for the sake of brevity to simply acknowledge them. William Heard Kilpatrick, a disciple of Dewey, stressed the

⁴¹⁸Ibid., p. 185.

⁴¹⁹Ibid., p. 225.

⁴²⁰Ibid., p. 177.

project method utilizing "purposeful activity."⁴²¹ Thus it appears that Dewey offers open educators both inspiration and caution lest his views become misinterpreted.

Boyd Henry Bode

Of the preceding writers it seems most appropriate to conclude this section by examining the views of Boyd Bode. Lawrence Cremin in his thorough examination of the progressive education era contends that Bode's warnings in Progressive Education at the Crossroads ultimately came to pass.⁴²²

Bode demonstrated a reflective and moderating criticism of progressive education. He began by charging that the paramount defect in American education was an absence of direction.⁴²³ Bode believed that schools must transmit a way of life in addition to the usual skills and knowledge.⁴²⁴ For America the way of life is democratic. Bode argued that a democratic way of life is distinctive and readily apparent when existing in the schools.⁴²⁵ He contended that schools must exemplify democracy at its best. Bode wrote, "In brief,

⁴²¹William Heard Kilpatrick, The Project Method (New York: Teachers College, Columbia University, 1929).

⁴²²Cremin, op. cit., p. 327.

⁴²³Boyd H. Bode, Progressive Education at the Crossroads (New York: Newson & Co., 1938), p. 100.

⁴²⁴Boyd H. Bode, Democracy as a Way of Life (New York: The Macmillan Co., 1937), pp. 12-14.

⁴²⁵Bode, Progressive Education at the Crossroads, pp. 110-112.

the school must be a place where pupils go, not merely to learn, but to carry on a way of life."⁴²⁶

Schools can and should be a vital aspect of a society for its perpetuation. Bode noted that political revolutionaries always utilize the schools to foster new regimes. A democracy is to a disadvantage not experienced by dictatorships in that democracy is founded on free choice including freedom to choose away from democracy. Thus democracy is in a dilemma in that its perpetuation cannot be mandated. Consequently, it becomes crucial that students fully experience democracy in the schools.⁴²⁷ Hopefully students will find satisfaction in a democratic school to such an extent that democracy will survive. It was for this reason that Bode considered the school as being obliged to be the "institution in which democracy becomes conscious of itself."⁴²⁸

It is not enough to agree that democratic schools must be unique. Bode felt obligated to examine whether schools indeed reflected democracy. It is not too surprising that he wasn't overly satisfied with what he saw.⁴²⁹ Apparently agreement for democratic schools becomes an academic exercise inasmuch as schools by and large remain unchanged. Bode concluded that the public seeks a conventional education presumably because no other form of education

⁴²⁶Bode, Democracy as a Way of Life, p. 77.

⁴²⁷Ibid., pp. 12-13.

⁴²⁸Ibid., p. 95.

⁴²⁹Ibid., p. 16.

is envisioned. The only debates are between parents and teachers, each wrestling for selection of the curriculum. Bode found irony in that the student for whom the school exists is often "the forgotten man."⁴³⁰

Bode felt that too often schools feign allegiance to democracy by offering a separate course on democracy. Obviously democracy must permeate the entire educational system rather than exist in one course. It is not enough to study democracy; it must be experienced.⁴³¹

Bode felt that the spirit of democracy must permeate the schools including the matter of conduct.

Hence a special institution, such as the school, is now needed to cultivate the habit of relying on the foresight of consequences rather than on authority in the guidance of conduct. In other words, opportunity must be afforded for the practice of democracy.

If the consequences which are foreseen and which are made the controlling consideration relate to the continuous extension of shared interests and common purposes, the school becomes a place where democracy is applied to conduct.⁴³²

Therefore it becomes clear in Bode's view that democratic schools are "an adventure in faith." Implicit is a belief that students can learn in a democratic setting and also be responsible for self conduct.⁴³³ Bode was aware that over zealous teachers might use undemocratic tactics to foster

⁴³⁰Ibid., p. 97.

⁴³¹Ibid., p. 63.

⁴³²Bode, Progressive Education at the Crossroads, p. 115.

⁴³³Bode, Democracy as a Way of Life, p. 113.

democracy. Such teachers promote "self-direction from within" only so long as students choose to become "believers in the democratic vista." Bode's solution to the dilemma was rather forthright.

The teacher's work is done when he has made the issue clear as best he can. Education becomes propaganda when we set out deliberately to make converts; and, moreover, we get hopelessly messed up if the doctrine for which we seek converts is a doctrine that it is wrong to seek converts.⁴³⁴

Bode charged an aristocratic educational system had been transported from Europe although the United States purported to be democratic. He found evidence for his contention in the lord and master classroom atmosphere along with an emphasis for the academic rather than the practical.⁴³⁵ However, for Bode the changing times require an everchanging educational system. He believed that an educational system which apparently suited the needs of the past was surely not guaranteed to meet the unique needs of the present.⁴³⁶

In Bode's view, it was not enough for educational reformers to be offering a new system as a reaction to the traditional system. The real issues are far more pervasive and must be appreciated. Basic assumptions must be attacked rather than specific shortcomings. In Bode's view, traditional education seemingly was built on a premise that a

⁴³⁴Bode, Progressive Education at the Crossroads, p. 81.

⁴³⁵Bode, Democracy as a Way of Life, pp. 64-67.

⁴³⁶Boyd H. Bode, Conflicting Psychologies of Learning (New York: D. C. Heath and Co., 1929), p. 286.

pattern of truth was accessible rather than a belief that truth isn't ready-made but must be created.

A sculptor would not consider himself much enlightened if he were told that the statue is already contained in the marble and that his job is simply to clip away the superfluous material. A carpenter would have his doubts if he were instructed to build a house, not according to a plan based on the needs and desires of the future occupants, but according to the plan inherent in the building materials. Yet for some reason such advice seems entirely appropriate when it is a question of building, not a house, but an individual character or a social order.⁴³⁷

Consequently, Bode believed that the progressive school must be more than a place where children learn. It is also a place where a democratic way of life is to be experienced.⁴³⁸ As such, it was Bode's hope that the progressive schools could break the bounds whereby "the common man will eventually come into his own."⁴³⁹

It was at this point that Bode provided such cogent insight as to a central issue which faced the progressive education movement.

It is the question of a choice between discovery of inspection on the one hand and invention or creation on the other. As long as this remains obscure, tradition is bound to prevail. The only way we can discover anything by inspection, whether of the universe or of the individual pupil, is to inject into the situation while we are looking the things that tradition has taught us to see. Finding values by inspection is like testing a mine that has been "salted." It is

⁴³⁷Bode, Democracy as a Way of Life, pp. 69-70.

⁴³⁸Bode, Progressive Education at the Crossroads, p. 9.

⁴³⁹Ibid., p. 122.

sheer self-delusion to assume that a pupil in a progressive school will automatically achieve a social insight which the school itself does not possess. Unless or until progressive education emphasizes the wider implications of its position, the doctrine of fixed and immutable values is not likely to be exposed to any serious danger.⁴⁴⁰

Bode elaborated upon his criticism of progressive schools. He was suspicious of the aimless direction progressive education seemed to be taking. The vacillation from emphasis upon the individual to emphasis toward society aroused Bode. He contended that careful examination of the individual provides the educator with a greater understanding of the "raw material"; it does not prescribe the curriculum. There is a certain futility, according to Bode, when educators turn to interests, needs, growth, and freedom in an attempt to find a curricular path. It was his contention that the democratic way of life provides an all encompassing educational model which places the foregoing elements in a proper perspective. Otherwise, excesses which characterized the worst of the progressive movement tend to result.⁴⁴¹ As a case in point, Bode wrote of the pupil who asked, "Do we have to do what we want to do today?"⁴⁴² Bode felt that the conflict between attending to individual versus societal needs was somewhat akin to Dewey's argument against the

⁴⁴⁰Bode, Democracy as a Way of Life, pp. 72-73.

⁴⁴¹Bode, Progressive Education at the Crossroads, pp. 39-44.

⁴⁴²Ibid., p. 99.

Either-Or philosophy. It was Bode's belief that activities for the individual should be of the type which "make for the continuous widening of the area of common interests and concerns."⁴⁴³

Progressives made a mistake, in Bode's opinion, when they overly promoted cooperative activities. Excesses led to pupils who developed a "herd mind" by being unable to make individual decisions. Bode held that such teachers argued they were teaching the "whole child" but failed to fully appreciate the entire meaning of whole.⁴⁴⁴

Similarly, he believed that the conflict between teaching the child or teaching the subject was unnecessary. Bode contended that pupils must be taught to think in logical patterns similar to the organization of subject matter. This does not mean that truth is ready-made as purported by the traditional curriculum which coerces "right answers."⁴⁴⁵ Bode suggested that a democratic school places a new relationship between the individual and society. Both the individual and society have responsibilities to each other. A democratic society and its schools owe the individual an opportunity to fully pursue his interests and abilities which contribute to the common good. Likewise the individual must appreciate his responsibilities as a member of the society.

⁴⁴³Ibid., p. 109.

⁴⁴⁴Ibid., p. 113.

⁴⁴⁵Ibid., pp. 94-96.

Both positions are therefore mutually reinforcing. Similarly, the society must encourage self-discipline by the individual which, in Bode's words, is "at the heart of the educative process." However, he charged that this is not the only acceptable form of discipline. Appropriate punishment by society clarifies how offenses are perceived by society.⁴⁴⁶

Bode also dwelt upon the issue of growth as it applies to education. He was sympathetic toward the principle of a child-centered curriculum founded on natural growth but qualified his endorsement. For Bode an over emphasis on growth was futile inasmuch as teachers come to abdicate their responsibilities of providing guidance. Bode felt that arguing between inner growth and directed growth becomes a vicious circle of contradictions. He charged that the principle of growth wasn't sufficient to provide philosophic direction.⁴⁴⁷ Bode's conclusion of the issue of growth certainly resembles those of John Holt.

The fact that the progressive movement has never come across with an adequate philosophy of education warrants the presumption that it does not have any. Moreover, the lack of a "felt need" in this respect leaves room for the suspicion that so far the real problem in guidance has been the problem of imposing the teacher's views on the pupil without getting caught in the act.⁴⁴⁸

⁴⁴⁶Bode, Democracy as a Way of Life, pp. 80-81.

⁴⁴⁷Bode, Progressive Education at the Crossroads, pp. 73-81.

⁴⁴⁸Ibid., p. 84.

Similarly progressive educators attempted to build the curriculum around the principle of student interest. Bode did not oppose the curriculum built around interests, but he strongly opposed the misinterpretation of the principle. He clarified the difference between immediate and future interests. It is all too easy to design a curriculum around immediate needs, but the result prolongs the period of infancy. Education, in Bode's words, should "emancipate the pupil from dependence on immediate interests." Bode preferred an education which neither promotes caprice nor authority but rather intelligence via "continuous reconstruction of experience."⁴⁴⁹ Concomitant to this notion is the belief that interests should be capitalized upon as they lead to a goal such as a democratic way of life.

Likewise Bode addressed himself to the issue of needs as they apply to the curriculum. He wrote that needs exist in a variety of types and quantities, including real needs which may be felt or unknown to the student. Bode equated felt needs as being desires. It is important to cater to those needs which contribute to a pattern or philosophy. Otherwise, inconsistencies result which characterized progressive education at its worst. Consequently, Bode felt that it is a mistake to dolt upon needs inasmuch as needs are most difficult to identify. Needs are not to be foresaken but rather redefined in reference to curriculum priority.⁴⁵⁰

⁴⁴⁹Ibid., pp. 52-59.

⁴⁵⁰Ibid., pp. 62-68.

We cannot start with needs, because needs must be determined with reference to the way of life which the pupil eventually adopts as his own and the choice that he will make cannot be presupposed from the outset. Instead of using needs as a starting point, we educate people in order that they may discover their needs.⁴⁵¹

Bode emphasized that the function of a teacher in a democratic school was unique. The teacher is not to mandate his own philosophy upon students. Instead he is to attempt to make students aware of the issues. Bode warned that it is insufficient for students to simply be adamant toward the "existing order." Students must also understand and promote the potentials of a democratic society.⁴⁵²

All this means, according to Bode, that students have freedom for thinking.⁴⁵³ It is not enough to arrange for ability groupings or progress at individual rates. The teacher's responsibility continues beyond that of a "wait and see what happens" posture. Teachers must also demonstrate flexibility of resourcefulness while being empathic.⁴⁵⁴ According to Bode, it is the teacher's task to stimulate or motivate students to "reorganize the body of their personal experiences." This does not mean that teachers are to provide "intelligence in finished form." Thinking cannot be

⁴⁵¹Ibid., pp. 69-70.

⁴⁵²Bode, Democracy as a Way of Life, pp. 86-87.

⁴⁵³Bode, Conflicting Psychologies of Learning, p. 274.

⁴⁵⁴Ibid., p. 284.

dictated.⁴⁵⁵ Bode took a position against predictability or uniformity of education.

What the average man is capable of cannot be determined just by looking at him, any more than the career of a newborn baby can be predicted on the basis of the data provided by the hospital. History proves merely that the common man was never given a chance to think, and then was blamed because he was unable to think. The resourcefulness often exhibited by pupils who are failures in their school work might be taken as an indication that people are not necessarily stupid because they are not good at "learning." Democratic education is obliged to stake everything on a program for the liberation of intelligence. It need not, and must not, demand uniformity of belief. Pupils come to school with all kinds of backgrounds; it is hardly conceivable that they should all emerge with the same set of conclusions. It is not to such uniformity of conclusions, but to certain habits of thinking and feeling and acting that democracy must look as its hope for the future.⁴⁵⁶

Boyd Bode demonstrated concerns for the future of progressive education remarkably similar to those now faced by today's open educators. Surely it would seem fitting that the "compassionate critics" reacquaint themselves with such remarkable educators as Dewey and Bode. It is crucial that open education must demonstrate a consistent philosophy if it is to become viable in its impact upon American education. There may be those who excuse Bode's insistence upon democratic education as being reflective of the prewar times in which he wrote. Yet there is an undeniable permanence to Bode's words which transcends into today.

⁴⁵⁵Ibid., p. 298.

⁴⁵⁶Bode, Democracy as a Way of Life, pp. 105-106.

Summary

Thus it becomes clear open education is not without philosophic support. Such support is of considerable tenure and from highly respected philosophers. The following chapter examines the impact open education concepts have had upon industrial education.

CHAPTER III

EDUCATIONAL BELIEFS OF PREVIOUS INDUSTRIAL ARTS LEADERS

Introduction

It becomes vital for the purposes of this study to examine the curricular issues which received the attention of earlier industrial arts teacher educators. Chapter I asked the question as to whether industrial arts has an open education heritage. Answers to such questions help explain development within the field and provide curricular implications.

Organization Rationale

Organization of such an examination becomes important in attending to this task. Emphasis could be placed upon chronology, individuals, issues, or combinations thereof. Reporting on individuals would be reasonably easy but also mechanistic and repetitious. Furthermore this tact tends to call for conclusions which may or may not be accurate or even consequential for that matter. Selective references, incomplete research, or quotations out of context can easily provide for faulty impressions. Also it is virtually impossible to explicitly classify an individual's attitudes toward learning and education. Many individuals vacillate because of contradictory beliefs of changing times which

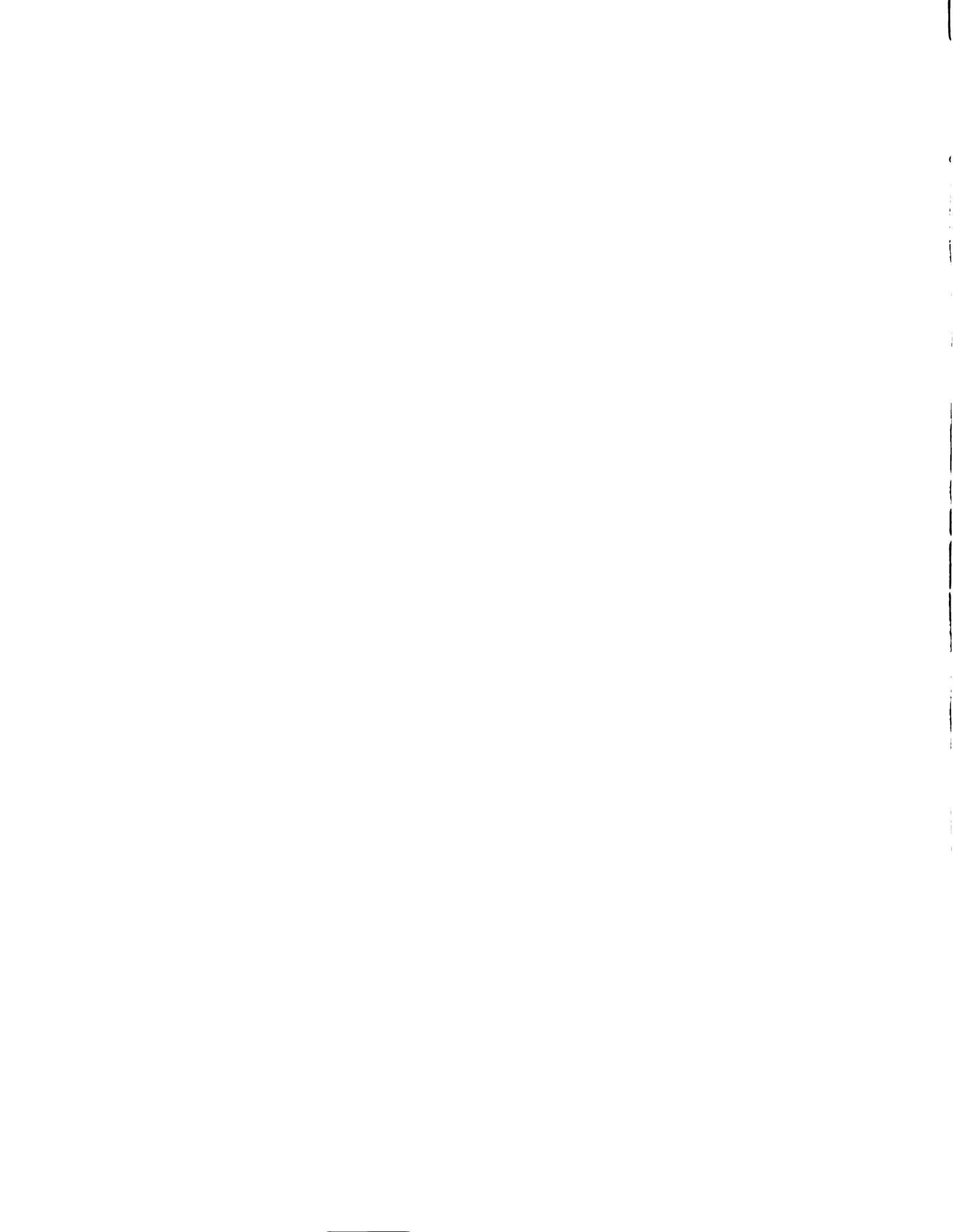
provide new insights. Even great philosophers have been known to spend much of their later years repudiating earlier statements.

Consequently, this chapter will center on issues written in the three eras of manual training, manual arts, and industrial arts. Chronological stratification preserves the context of the times thereby identifying forces which impinged upon educators. For example, the general acceptance of faculty psychology undoubtedly influenced early manual training educators. Naturally individuals must be identified for various reasons, including bibliographic citations, but hopefully overriding emphasis will center on curricular issues rather than the individuals who spoke the words. Individuals may precipitate concern for curricular issues, but the issues may last longer than their authors. Also curricular issues can be examined for their duration and effect. So it is with this study that many of the issues and routes taken by industrial arts are now being addressed by open education.

Manual Training Influenced
by the Russian System

It is most interesting that Cremin in his thorough study of progressive education goes back to such men as John Runkle and Calvin Woodward in manual training and Liberty Hyde Baile in agricultural education as leaders in educational reformation.⁴⁵⁷ Both Runkle and Woodward were upset

⁴⁵⁷Cremin, op., cit., pp. 23-75.



about an overly bookish educational system which they considered unbalanced and unreal.

The Philadelphia Centennial Exposition of 1876 brought forth a display of the Russian system of industrial education developed by Victor Della Vos. The Russian system with its highly efficient series of manipulative exercises provided Runkle with insight to a solution for teaching his engineering students. As President of the Massachusetts Institute of Technology, Runkle was concerned with the difficulties students faced from an overly academic educational system.⁴⁵⁸

Meanwhile Woodward was busy at Washington University implementing and adapting the Russian system for American purposes. It is Woodward who provides greatest insight to the foundation of manual training in America through his The Manual Training School.⁴⁵⁹

It is helpful to examine views held by Woodward and others as an indication of the reasoning during the early manual training period. Woodward demonstrated remarkable beliefs, especially in light of the era in which he lived. His views were received as heresy in the early 1870's by educators who found no room for anything but "intellectual" education. Some of his views can be interpreted as open education while at other times he remained much more

⁴⁵⁸Ibid., p. 25.

⁴⁵⁹C. M. Woodward, The Manual Training School (Boston: D. C. Heath & Co., 1887).

traditional. He charged that schools demonstrated sameness and monotony while spending far too much time on the traditional subjects. Room must be made available for the practical subjects to balance the curriculum.⁴⁶⁰ David Femley later supported Woodward's belief by arguing for manual training which ". . . makes some amends for the great wrong done boyhood in transporting it to the city."⁴⁶¹ Like Paul Goodman, Femley believed that much of a boy's education had taken place on the farm but became unavailable as families moved to cities. Femley wrote,

But ordinary school life is at war with every instinct of the child's physical nature.

Nature says to the child, "Run about," the school mistress says, "Sit still!" . . .

Manual training at the bench does not cure all these evils, but it puts the boy in a roomy shop where he is on his feet and may move about with some freedom.⁴⁶²

In the shop he can plan and execute the projects that arouse his interest and enlist his powers.⁴⁶³

Woodward continued his objection of the existing educational system which he considered defective and destructive. "Too often we see young people, who might have been educated to eminent usefulness, cast -- 'unfinished Into this breathing world, scarce half made up.'"⁴⁶⁴ Woodward

⁴⁶⁰Woodward, op. cit., p. 205.

⁴⁶¹David Femley, "The Educational Value of Manual Training," Manual Training Magazine, XII (October, 1910), 2.

⁴⁶²Ibid., p. 3.

⁴⁶³Ibid., p. 2.

⁴⁶⁴Woodward, op. cit., p. 183.

demonstrated sensitivity toward self concept and dropouts rather than agreeing with proponents of the take-it-or-leave-it system.

I would make school attractive and indispensable. . . . They may, by laboring very painfully over the prescribed but uncongenial exercises, escape the stigma of being blockheads; but they can never do very well in them. They will always appear to disadvantage when compared with the boys with good memories for words, whose mental and moral natures accept with pleasure or without serious question the statements and conclusions of others. Such boys are practically plowed under in our schools as not worth harvesting. And yet it not infrequently happens that the boy . . . is regarded as dull because he cannot master an artificial system . . .⁴⁶⁵

Woodward felt that many of the evils of education could be overcome by the adoption of principles introduced by Froebel and Pestalozzi. It was Woodward's view that healthy growth was always pleasurable whereupon he suggested the study of things should replace words. This is not to say that Woodward strictly opposed the academics. Rather he argued for an integration of the manual with the intellectual. He believed that all children should receive manual training. It was to be a liberal or free education which provided students with educational stability. Woodward held that his objective for manual training was educational, but he was also confident that industrial and economic results would follow.⁴⁶⁶ Parenthetically, Woodward held that each boy needed to learn a trade, but there was danger from a too

⁴⁶⁵Ibid., p. 221.

⁴⁶⁶Ibid., pp. 193-229.

early specialization. Furthermore he argued against an educational system which was overly utilitarian.

. . . if all education were limited to such practical examples, our schools would be useless. The idea of a school is, that children are to be graded and taught in classes; the result aimed at being, not at all the objective product or finished work, but the intellectual and physical growth which comes from the exercise.⁴⁶⁷

However, this is not to say Woodward advocated what others label a broad cultural education. Such a system under the guise of broad culture may be hurried, shallow, and incomplete.⁴⁶⁸

Misunderstandings of Woodward's views are corrigible by noting that he advocated "firm, kind, sympathetic management."⁴⁶⁹ For the most part, Woodward advocated teacher initiated projects. For Woodward manual training was enjoyable but not play. "All the work is logically arranged, and simultaneous class exercises are rigidly insisted upon."⁴⁷⁰ He did state, however, that it was an excellent idea to give boys permission "occasionally to make what they like, and to carry away the products."⁴⁷¹ He strongly preferred class instruction over individualized instruction and therefore stated his preference for the Russian system

⁴⁶⁷Ibid., p. 275.

⁴⁶⁸Ibid., p. 129.

⁴⁶⁹Ibid., p. 73.

⁴⁷⁰Ibid., p. 227.

⁴⁷¹Ibid., p. 49.

over Swedish sloyd,⁴⁷² which he considered unlikely of success.⁴⁷³ Analyzing the sloyd system, he wrote,

As the class scatters, and becomes a sort of go-as-you-please, every-man-for-himself collection of individuals, all of the characteristics of a school disappear, and class-methods are at an end, and very few pupils can be instructed in new work by one teacher. . . . They completely lost the wholesome effect of class comparison and criticism . . . what Dr. Harris calls the "leverage of the class" should be utilized to its full extent to stimulate individual intelligence.⁴⁷⁴

By any measure Woodward must be judged as an educational revolutionary in his time, and it is particularly important to acknowledge the centrality industrial education had upon educational reformation. He operated at a time when faculty psychology was still popularly accepted, which was best exemplified by the writings of Charles Ham.

It was Ham who argued for homogeneity in education by combining the exercise of both academic and manual faculties. The result would be, in Ham's view, one in which the hand and mind were "en rapport."⁴⁷⁵ By such means education could finally realize the aspirations of educational reformers from Comenius to Spencer. It is not surprising that Ham

⁴⁷²B. B. Hoffman in The Sloyd System of Wood Working (New York: American Book Company, 1892), p. 16, defined the word sloyd as the following: "The word Sloyd (Swedish, Slojd) is derived from the Icelandic, and means dexterity or skill."

⁴⁷³Woodward, op. cit., p. 277.

⁴⁷⁴Ibid., p. 127.

⁴⁷⁵Charles H. Ham, Mind and Hand (New York: American Book Company, 1900), pp. 380-385.

therefore noted that manual training had grown out of the kindergarten movement.⁴⁷⁶ Like Woodward, Ham stressed that manual training was to serve not only a utilitarian purpose of skill development but also "as a factor of mind education."⁴⁷⁷

Frank Leavitt acknowledged that early manual training experienced disagreement as to its purpose. He believed that one group, with the aid of the evolving physiological psychology, promoted manual training for its character formation contributions much like proponents of the classics. However, Leavitt argued for a practical manual training which would be deserving of the title industrial education along the lines of the 1906 report by the Massachusetts Industrial Commission.⁴⁷⁸

Meanwhile others viewed industrial education from another perspective. It is significant that Cremin turned to a seemingly outsider to industrial education, Jane Addams of Hull House, for her perception of industrial education.⁴⁷⁹ Jane Addams' beliefs strongly resemble those of Boyd Bode and today's open educators.

The democratic ideal demands of the school that it shall give the child's own experience a social value; that it shall teach him to direct his own activities and adjust them to those of other people. . . .

⁴⁷⁶Ibid., pp. 358-368.

⁴⁷⁷Ibid., pp. 343-344.

⁴⁷⁸Frank Mitchell Leavitt, Examples of Industrial Education (New York: Ginn and Co., 1912), pp. 12-17.

⁴⁷⁹Cremin, op. cit., pp. 60-65.

We are impatient with the schools which lay all stress on reading and writing, suspecting them to rest upon the assumption that the ordinary experience of life is worth little, and that all knowledge and interest must be brought to the children through the medium of books. Such an assumption fails to give the child any clew to the life about him, or any power to usefully or intelligently connect himself with it.⁴⁸⁰

Addams chastised the schools for neglecting career education, including comprehension for the social significance of an individual's efforts. Instead emphasis was placed upon material rewards and meaningless social stature. It becomes clear that her goal was a humanistic education whereby individuals grasped purpose and a sense of self-determination.⁴⁸¹

However, Jane Addams was suspicious of manual training when it only perpetuated the status quo.

It is much easier to go over the old paths of education with "manual training" thrown in, as it were; it is much simpler to appeal to the old ambitions of "getting on in life," or of "preparing for a profession," or "for a commercial career," than to work out new methods on democratic lines.⁴⁸²

We constantly hear it said in educational circles, that a child learns only by "doing," and that education must proceed "through the eyes and hands to the brain"; and yet for the vast number of people all around us who do not need to have activities artificially provided, and who use their hands and eyes all the time, we do not seem able to reverse the process.⁴⁸³

⁴⁸⁰Jane Addams, Democracy and Social Ethics (New York: The Macmillan Company, 1920), pp. 180-181.

⁴⁸¹Ibid., pp. 193-194.

⁴⁸²Ibid., p. 204.

⁴⁸³Ibid., p. 208.

An example of the views expressed by Jane Addams was demonstrated by Francis Parker. It was Colonel Parker who made such an impact for his progressive ideas while administering at the Quincy and Cook County school systems. Later he was to become the first director of the School of Education at the University of Chicago.⁴⁸⁴

Colonel Parker envisioned manual training as providing a central role in general education. He believed in a clear distinction between drudgery and work. Drudgery, argued Parker, is monotonous and without purpose, but work is real, stimulating, and interesting.

There is great outcry against our schools and colleges, caused by the suspicion that they educate children to be above manual labor. This suspicion is founded upon fact, I am sorry to say; but the statement of the fact is not correct. Children are educated below manual labor.⁴⁸⁵

Furthermore Parker believed that manual training must be studied by all for its moral values. He also argued against separation of manual training from the rest of the curriculum.⁴⁸⁶

Colonel Parker supported his beliefs by returning to his principle that the end of all education is the

⁴⁸⁴L. W. Wahlstrom, "Francis W. Parker -- Pioneer of Educational Reform," Industrial Arts and Vocational Education, XXVI (November, 1937), 360-363.

⁴⁸⁵Francis W. Parker, Notes of Talks on Teaching Given by Francis W. Parker at the Martha's Vineyard Summer Institute, reported by Lelia E. Patridge (9th ed.; New York: E. L. Kellogg & Co., 1888), p. 180.

⁴⁸⁶Ibid., pp. 181-182.

development of character from which grows the habit of self-control.⁴⁸⁷ Consequently, he believed that the obligations upon the teacher are enormous for "the teacher must know the child, and its nature."⁴⁸⁸ During his influence within the latter nineteenth century, Parker inspired both Dewey and Hall and helped to initiate practices which later came to be known as progressive education.⁴⁸⁹

Manual Training Influenced
by the Sloyd System

Also competing with the Russian system was the Swedish sloyd system with its emphasis upon useful articles and individualized instruction. Sloyd was primarily developed by Uno Cygnaeus in Finland and later refined by Otto Salomon at Naas, Sweden. It is noteworthy that Salomon identifies that both he and Cygnaeus were beholding to Froebel and Pestalozzi for their educational views.⁴⁹⁰

Thus arose two competing industrial educational systems which were to have a profound effect. It is not too difficult to sense a correlation between the Russian system and today's systems approach to education utilizing performance objectives. Likewise a correlation appears to exist

⁴⁸⁷Ibid., pp. 166-168.

⁴⁸⁸Ibid., p. 170.

⁴⁸⁹Wahlstrom, op. cit., pp. 360-363.

⁴⁹⁰Otto Salomon, The Theory of Educational Sloyd (New York: Silver Burdett & Co., 1906), pp. 7-8.

between the sloyd system and open education. There evolved a series of issues interrelated with the debate over the Russian system versus the sloyd system. Was industrial education to fulfill an economic or educational function? The utilitarian point of view emphasized useful knowledge and skills while the disciplinarian or formative education view held that knowledge and skills may easily be forgotten. Thus advocates of formative education which included sloyders emphasized the "development of the powers and faculties of the child."⁴⁹¹ Was industrial education to serve the needs of society or the needs of the individual? Should older or younger students receive industrial education? Was industrial education to be general or specific? These and other issues have largely remained unresolved and thereby may help explain separation within industrial education including industrial arts as contrasted to vocational education.

Turning to the sloyd system for deeper inspection, it becomes obvious that advocates of sloyd held many views now promoted by open educators. Otto Salomon, who has already been identified, Gustaf Larsson, and B. B. Hoffman serve as representatives of the sloyd movement.

An important characteristic of the sloyd system was its emphasis on being child-centered.⁴⁹² By concentrating

⁴⁹¹Ibid., p. 3.

⁴⁹²Gustaf Larsson, Elementary Sloyd and Whittling (New York: Silver Burdett and Co., 1906), pp. 230-235.

upon ideas, needs, and capacities of individual children, sloyd attempted to foster a spirit of self-reliance and independence.⁴⁹³ It therefore became crucial to study children for their learning styles in order that instruction could proceed from the simple to the complex.⁴⁹⁴ Correspondingly emphasis was placed upon the student rather than his work.

Thus sloyd was promoted for its intrinsic values. Students were said to perceive that sloyd had immediate value for its usefulness as well as future value.⁴⁹⁵ Consequently, it was naturally worth learning and therefore did not require coercion to get children to learn what adults perceived worthwhile. Spontaneity played a central role in sloyd although Larsson stated that "spontaneity may be guided, greatly to the advantage of the child."⁴⁹⁶ Also sloyd was purported to prove its worth in that student interest increased rather than diminished with time. Part of its value, charged Salomon, lay in students being able to be successful at sloyd, thus developing self-respect.⁴⁹⁷ In addition students were encouraged to develop self-sufficiency by critiquing their own work rather than depending on the teacher for

⁴⁹³B. B. Hoffman, op. cit., p. 26.

⁴⁹⁴Salomon, op. cit., p. 10.

⁴⁹⁵Ibid., pp. 19-21.

⁴⁹⁶Larsson, op. cit., p. 2.

⁴⁹⁷Salomon, op. cit., pp. 45-47.

verification.⁴⁹⁸ The similarity between this point of view and that of John Holt is noteworthy.

It is fitting that individualized instruction was selected as the method to implement the goals of sloyd. Advocates of sloyd argued against class instruction which tended to treat the class as a unit rather than the individuals who comprise the class. Hoffman wrote, "Since children have different capabilities, and since there are as many individualities as there are children, it is evident that the same instruction will not suit all."⁴⁹⁹ The result of class instruction is compromise between various learning styles and rates. An astute teacher, argued Salomon, must know when to provide information and when to remain silent, which is possible with individualized instruction. He wrote, "The best teacher is the one who gives the best supervision and at the same time the least teaching."⁵⁰⁰

The issue of instruction versus education thus became tangential to class versus individualized instruction. Sloyd advocates equated the Russian system to an instructional system while sloyd concentrated on education. Salomon explained, "Instruction aims at the implanting of knowledge and the promoting of dexterity, while education aims at the development of the faculties."⁵⁰¹ There were opponents who felt that

⁴⁹⁸Larsson, op. cit., pp. 230-235.

⁴⁹⁹Hoffman, op. cit., p. 48.

⁵⁰⁰Salomon, op. cit., p. 14.

⁵⁰¹Ibid., p. 64.

individualized instruction was inefficient and costly in contrast to class instruction. Salomon contended, ". . . there is only one kind of teaching which is too expensive, and that is the bad one."⁵⁰²

It took a special type of teacher to foster the beliefs and implement the methods of sloyd. Such teachers not only needed expertise in their subject matter but also a demonstrated ability for the art of teaching.⁵⁰³ It was argued that skilled artisans often were poor sloyd teachers because of the impatience in the quest for perfection and because they tended to concentrate upon the subject rather than on the students. Salomon contended that the successful sloyd teacher exhibited a guiding tact or savvy which was, ". . . ever with him as his guide, philosopher and friend, -- friend to the children as well as to himself."⁵⁰⁴ Thus it becomes apparent that advocates of sloyd, like open education, insisted that the study be approached on a voluntary basis for student and teacher alike.⁵⁰⁵

For all its promises for a better educational system, sloyd undoubtedly had its shortcomings. Although sloyd attempted to promote self-reliance, it appears to have befallen an orthodoxy itself. For example, early sloyd books

⁵⁰²Ibid., p. 68.

⁵⁰³Hoffman, op. cit., p. 232.

⁵⁰⁴Salomon, op. cit., p. 14.

⁵⁰⁵Ibid., p. x.

often contained "suggested" models which appear to have become entrenched and thus foreclosed further experimentation. Nevertheless the sloyd era demonstrated a serious attempt to improve industrial education via a more humanistic route.

Manual Arts and Industrial Arts

As the manual training era gave way to manual arts and industrial arts, additional voices proclaimed educational beliefs which may be identified as open education. It is important to acknowledge in passing that manual training, manual arts, and industrial arts are not contained in discrete periods of time. Indeed, the cynic, with perhaps a certain amount of justification, may tend to believe manual training is still existing in certain quarters. Also long careers led to many industrial educators influencing several eras. Therefore it is difficult to identify certain individuals with only one era, such as manual arts. Also certain leaders influenced not only manual arts and industrial arts but also vocational education.

Errors of the Past

With increasing frequency industrial educators cast broadsides against educational practices including manual training. As one of the most perceptive industrial educators of all times, Frederick Bonser regularly brought forth scathing indictments against faulty school practices. He was adamant toward schools which exhibited such callous lack of concern for students who chose to drop out. Bonser wrote,

Their passive verdict has been, "Let them drop. The 'regular' school is no place for them." What is a "regular" school for, anyway? Why not "regularize" all schools for regular pupils, excepting those only who are really atypical?⁵⁰⁶

Many of the criticisms of today's schools are but echoes of the past, as evidenced by the words of Bonser.

In thousands of schools, teachers are struggling with children to induce them to learn the contents of books in which they have almost no natural interest . . . Our schools teach words, words, words, and yet more words. And great multitudes of these words have no real meanings, because they are learned without any experience with the realities which the words represent. It thus follows that many are schooled, but few are educated.⁵⁰⁷

There are those who continued to argue that to abdicate the centrality of books is to abdicate culture. Bonser countered that utilitarian activities are indeed cultural when the physical manipulation also is a wrestling with ideas.⁵⁰⁸

Bonser's writings were similar to those expressed in Benjamin's The Saber-Tooth Curriculum, a satire on curriculum irrelevance.⁵⁰⁹ The question raised by Bonser was why a curriculum continues to exist long after its need ceases

⁵⁰⁶Frederick G. Bonser, "Is 'Prevocational' a Needed or Desirable Term?," Manual Training and Vocational Education, XVII (April, 1916), 588.

⁵⁰⁷Frederick G. Bonser, Life Needs and Education (New York: J. J. Little and Lives Co., 1932), pp. 105-106.

⁵⁰⁸Ibid., pp. 81-82.

⁵⁰⁹Harold R. Benjamin, The Saber-Tooth Curriculum (New York: McGraw-Hill Book Company, 1939).

and its psychological buttress has been disproven.⁵¹⁰ A number of years later Arthur Mays complemented Bonser's view by suggesting, "No education, with its center of being in the ages that have past, will save modern civilization."⁵¹¹ This point of view continues to concern industrial arts leaders, such as Lee Hornbake, who has made similar statements.⁵¹²

Bonser demonstrated an appreciation that manual training had helped to bring reality into education but that it was time for change. Many of the practices during the manual training and manual arts era had held to faculty psychology, which had been disproven by Thorndike. For Bonser and others, manual training possessed numerous glaring flaws. Concentration had been paramount toward the product rather than the growth of each student. Also it had been up to the individual to conform. The system was never suspect when problems arose.⁵¹³ John Friese added how the old educational pattern had attempted to transmit "race experiences" and respect for authority largely through the use of rote memory.

⁵¹⁰Frederick G. Bonser, The Elementary School Curriculum (New York: The Macmillan Co., 1921), p. 4.

⁵¹¹Arthur B. Mays, "Practical Arts as Moral Education," Industrial Arts and Vocational Education, XXV (June, 1936), 165.

⁵¹²R. Lee Hornbake, "Time for Progress," Paper read before meeting at Oswego, p. 6. (Mimeographed.)

⁵¹³Frederick G. Bonser and Lois Coffey Mossman, op. cit., pp. 478-479.

Friese felt that such strategies were surely easy to administer but educationally unsuccessful. He noted that the educational pendulum had begun to swing to the other extreme with concern for the individual. Friese wasn't too concerned with an over emphasis upon individual growth, for it was probably necessary to gain the attention of the "old guard."⁵¹⁴ Many years later Lee Hornbake was to echo these same views of how the early days had been built on "patterned programs" with an ignorance of individual needs. Hornbake noted how the only appreciation of individual differences was to assign faster students an increased production schedule.⁵¹⁵

Progression via Influences

It is clearly evident that early industrial educators were not content to allow errors of the past set the tenor for the future. These men believed that they and certain philosophers had insight to solving many educational problems. Indeed it may be claimed that there has existed a distinct lineage of industrial educators whose primary concern has been for the individual in the education process and the need for reality.

Most of these leaders in their writings went back to Pestalozzi, Rousseau, or Froebel as an acknowledgment for

⁵¹⁴John F. Friese, "Manual Arts Teaching Methods, a Vehicle for Developing Procedure in Reasoning," Industrial Education Magazine, XXX (August, 1928), 45-47.

⁵¹⁵R. Lee Hornbake, "Industrial Arts for All," Paper read before New England meeting, circa 1955, p. 9. (Mimeographed.)

guidance for industrial education. However, William Warner went further back than most by citing Martin Luther, Mulcaster, and Francis Bacon as early advocates for educational reformation, including industrial education.⁵¹⁶

Froebel in particular received a great deal of attention from early industrial education leaders. Ira Griffith, a manual arts leader, recounted,

Froebel, long ago, gave the following order which is recognized today as a complete statement for ideal method: (1) spontaneity, (2) instruction, (3) creative effort. Note the order.⁵¹⁷

Charles Bennett, the noted historian of industrial education, in a brief magazine article admirably outlines the lineage of early individuals within industrial education who emphasized concern for the child rather than the system. It appears that Bennett did not interpret the Froebelian method in quite the same fashion as Griffith. Bennett described the Froebelian method as a subject arranged in sequential steps appropriate to student maturation. It is Bennett's contention that reaction against the mechanistic Froebelian method resulted in consideration and acceptance of Herbart's philosophy from Germany. Johann Friedrich Herbart did not promote manual activities as independent subjects

⁵¹⁶William E. Warner et al., A Prospectus for Industrial Arts in Ohio (Columbus: The Ohio Education Association and the Ohio State Department of Education, 1934), pp. 44-45.

⁵¹⁷Ira Samuel Griffith, Teaching Manual and Industrial Arts (Peoria: The Manual Arts Press, 1920), p. 76.

but rather a methodological support for subjects generally accepted in the curriculum.⁵¹⁸

Given the choice, Bennett continues, educational leaders, such as Dr. G. Stanley Hall and Colonel Francis W. Parker, favored freedom within manual training. Nevertheless confusion reigned and it became most fortunate that John Dewey came upon the educational scene. Through his School and Society, Dewey exerted a profound effect upon educators in strengthening their insight and convictions.⁵¹⁹ For example, William T. Bawden reported how speakers at industrial arts conventions used Dewey as a springboard for their speeches. On one such occasion Bawden describes how the speaker urged shop teachers to implement three broad objectives -- explore as many industries as possible, explore as many boys as possible via interests, and integrate shop activities with daily out-of-school activities.⁵²⁰

Dewey thus helped to encourage a wide array of curricular innovations within industrial education. Inspired by Dewey, Charles Richards set out to organize a curriculum reflective of the multiplicity of elements within industry.

⁵¹⁸Charles Alpheus Bennett, "Improvement of Instruction in the Arts," Industrial Education Magazine, XXXVIII (September, 1936), 184-186.

⁵¹⁹Ibid.

⁵²⁰William T. Bawden (ed.), "The Manual-Arts Shop and Normal Activities of Boys," Industrial Education Magazine, XXXIII (May, 1932), 279.

Thus Richards is remembered as the originator of the term "industrial arts."⁵²¹

Subsequently Frederick Bonser built upon Richards' work while concentrating on elementary education. Bonser accepted the principles by campaigning for industrial arts as a subject utilizing "problematic situations." Robert Selvidge followed by utilizing many of Bonser's conclusions but concentrated on an educational analysis of processes approach. Bennett reported that Selvidge avoided the dictated sequential approach common to manual training by requiring each student to arrive at his own sequential plan.⁵²²

Industrial educators took note as progressive education began to have its effect. Emanuel E. Ericson expressed some reactions which seemed rather characteristic. He did not view progressive education as unique as proponents claimed but rather the implementation of Rousseau's views. Furthermore Ericson viewed progressive education more as an attitude toward students than as unique methodology. He warned, however, that industrial educators should not look upon progressive education with a "we have always done it" attitude. In much the same way it would seem industrial arts teachers must not now look upon open education with a "we have always done it" attitude. Such an attitude fosters

⁵²¹Bennett, History of Manual and Industrial Education, 1870 to 1917, p. 453.

⁵²²Bennett, "Improvement of Instruction in the Arts," pp. 184-186.

complacency, warned Ericson, who believed that industrial arts could reap spin-off from progressive education.⁵²³

General Theories

There arose during manual arts and industrial arts a variety of general theories about education which help explain curricular development. As might be expected, some theories were more complementary than others.

Bonser acknowledged that a host of sharp differences over educational matters exist which create turmoil. A partial list includes conflict

between the individual and society; . . . between dependence upon adult guidance and self-initiated activity; . . . between a curriculum made wholly in advance and a curriculum built up wholly in the classroom from hour to hour and day to day; . . .⁵²⁴

The only solution, charged Bonser, is for the science of psychology to be utilized alongside philosophy. For his part, Bonser urged the implementation of a curriculum which is flexible enough to recognize and capitalize upon individual differences thereby displacing coercion.⁵²⁵

Like Bonser, Charles Richards approved of a curriculum of reality and freedom. His study of the pace setting Gary schools caused him to report on their merits.

⁵²³Emanuel E. Ericson, "Implications of Progressive Education for the Industrial Arts," Industrial Education Magazine, XLI (January, 1939), 7-11.

⁵²⁴Bonser, Life Needs and Education, pp. 167-168.

⁵²⁵Ibid., pp. 142-143.

One gains a strong impression at Gary that the school is not a secondary thing in the boy's life, a thing to be escaped from as quickly as possible, but that it is the big thing which commands by far the larger part of his energies and interests. . . . The shops themselves, although conducted with considerable freedom, generally reflect an atmosphere of real work, and the pupils are often found successfully carrying on operations and achieving results ordinarily judged quite beyond the capacity of boys of their age.⁵²⁶

Furthermore Richards believed that an innovative and experimental curriculum was as stimulating as conformative programs are deadening. He recognized that the Gary schools had problems, but they were the real problems of life and thus to be expected.⁵²⁷

Like Rousseau and today's open educators, Bonser urged educators to work with nature by capitalizing upon children's native impulses. He clearly recognized that needs and capacities are "markedly different in degree in children."⁵²⁸ It is only natural that Bonser took a Deweyian tact by expressing that education is growth. Consequently, Bonser believed that the test of education is whether an individual freely chooses further similar experiences after the initial contact.⁵²⁹

⁵²⁶Charles R. Richards, The Gary Public Schools/Industrial Work (New York: General Education Board, 1918), p. 111.

⁵²⁷Ibid., pp. xvii-xviii.

⁵²⁸Bonser, The Elementary School Curriculum, p. 41.

⁵²⁹Bonser, Life Needs and Education, p. 3.

The principles of education set forth by the Progressive Education Association were commended by Bonser. Among its principles were beliefs that children should have the freedom for natural development, the teacher is to be a guide rather than a taskmaster, and the child's needs are best met when school and home cooperate. Yet Bonser was very sensitive to the possibility that these principles can be misinterpreted. He charged that it was an abeyance of the principles when progressive education became misconstrued as an endorsement for the unfortunate aberrations so highly satirized.⁵³⁰

Bonser contended there exist certain irrefutable "Laws of Learning" to which schools must be accountable. He wrote, "We violate all of the laws of learning and of human nature and then wonder why children come out of the schools uneducated."⁵³¹ One such law is the "Law of Readiness" which holds that it is useless to attempt to teach that for which there is yet no capacity. The "Law of Effect" serves to recognize that students will continue study in only those areas which provide satisfaction. In addition the "Law of Exercise" admonishes teachers to correlate and integrate school activities with the realities of life. Bonser believed that the nature of childhood, daily life situations, and the "Laws of Learning" were in harmony when schools were

⁵³⁰Ibid., pp. 8-19.

⁵³¹Ibid., p. 5.

serving their purpose.⁵³² He warned that schools serve no purpose when possessed with isolationism. It is pathetic and unacceptable, he charged, when students are driven from the schools in search of their education.⁵³³

Bonser and Lois Coffey Mossman, his colleague at Columbia, described how industrial arts was able to satisfy numerous natural impulses found in children. These include impulses for manipulative activity, investigation, aesthetics, and social activities.⁵³⁴ Education, wrote Bonser, loses its balance when it overly concentrates on facts and skills. The uses and meanings of facts and skills must not be ignored.⁵³⁵ The values of handwork, wrote Bonser and Mossman, are derived from both the meaningfulness of experiences and pleasure sensed. In other words, handwork contributes experiences to put meaning into classroom study. Also the pleasure derived from handwork provides desirable attitudes to continue further such experiences.⁵³⁶

A great deal of debate hovered about the issue of handwork versus theoretical study. There were those who urged more theoretical study within industrial education in order to gain rigor and acceptability. Opponents argued that

⁵³²Ibid., pp. 4-7.

⁵³³Ibid., p. 85.

⁵³⁴Bonser and Mossman, op. cit., p. 33.

⁵³⁵Bonser, Life Needs and Education, p. 4.

⁵³⁶Bonser and Mossman, op. cit., pp. 16-17.

just the opposite would result. Verne Fryklund argued that those who urge for greater stress being placed upon the informational aspect of industrial education have a distorted understanding of culture. Manipulative activities, wrote Fryklund, are surely reflective of the culture and therefore in no need of apology. Furthermore culture is of an individual nature and thus unable of being standardized for all.⁵³⁷

Other general theories now held by open educators have been entertained by industrial educators. Bonser and Mossman, for example, wrote that trial and error practices are to be expected for they offer valuable experimentation.⁵³⁸ The issue of drill also surfaced. Ira Griffith believed that repetition was useful but should be perceived as being valuable by students as well as teachers. He believed that there must be a valid reason why a student is asked to repeat an activity.⁵³⁹ Griffith agreed with Thorndike that students do not profit when their educational experiences are always "soft" and without perseverance. The point is that students accept postponement of gratification if the reason given is perceived as valid.⁵⁴⁰

⁵³⁷Verne C. Fryklund, "From Concepts to Techniques," Industrial Arts and Vocational Education, XXVI (April, 1937), 111-114.

⁵³⁸Bonser and Mossman, op. cit., p. 46.

⁵³⁹Griffith, Teaching Manual and Industrial Arts, p. 91.

⁵⁴⁰Ibid., p. 87.

Debate on these matters has continued for many years. Robert Selvidge took an anti-progressive education stance when he wrote the following:

The ideal may be supplied by dictation, and the practice required by authority, until the action becomes habitual. This is necessary, to a large degree, with the immature mind, a fact which the so-called progressive educators do not always recognize. . . .

During the past forty years, the philosophy of irresponsibility has so permeated our schools and our homes that we have forgotten that the immaturity and inexperience of youth do not give an adequate basis for the formation of rules of conduct, nor do we appear to be aware that yielding to the desire for immediate satisfaction is not likely to establish habits which prepare a child to assume duties of happy and useful citizenship.

. . . . For that reason, experiences in our schools which provide a wide range of activities offer much better opportunities for the development of character traits than those which involve only intellectual processes. In this respect, the industrial-arts experiences have greater potential value than the experiences in any other field.⁵⁴¹

In analyzing handwork activities in the schools, Bonser and Mossman concluded the situation was chaotic due to divergent attitudes and objectives.⁵⁴² Later Bonser suggested a course of action to correct the situation. Bonser contended that industrial arts contained a body of knowledge of such worth equal to other subjects in the curriculum and thus worthy of being an integral curricular element. As such, if properly developed, industrial arts would invigorate the

⁵⁴¹Robert Washington Selvidge, "Character Traits and Education," Industrial Education Magazine, XLI (November, 1939), 222-223.

⁵⁴²Bonser and Mossman, op. cit., pp. 481-482.

entire curriculum. It was crucial that industrial arts not become imbalanced by overly concentrating on the manipulative aspect. He wrote, "The side of execution has been developed to the almost total neglect of thought content or humanistic value."⁵⁴³

It was William Warner, however, who as a prime mover in the creation of A Prospectus for Industrial Arts in Ohio developed a most comprehensive plan for industrial arts including a reaffirmation of undergirding theories. It was Warner's contention that industrial arts "occurs in many other places than the schools."⁵⁴⁴

Democratic Education

Industrial educators have for an extended period of time sensed the democratic implications of their subject upon the child and his curriculum. Charles Bennett in 1925 clearly recognized how changes from manual training to manual arts and industrial arts were brought about by an increasing awareness of the operational meaning of democracy in the schools. He concluded that present trends were to continue if the democratic vista was truly to become a reality.⁵⁴⁵

⁵⁴³Bonser, Life Needs and Education, p. 75.

⁵⁴⁴Warner et al., A Prospectus for Industrial Arts in Ohio, p. 75.

⁵⁴⁵Charles A. Bennett, "Changes in Manual Arts Instruction in Relation to Changes in the Philosophy of Education," Industrial Education Magazine, XXVI (June, 1925), 362-363.

Industrial education has not always demonstrated a keen social sensitivity. Ashley contended industrial arts' purposes are "educationally social rather than vocationally economic." He acknowledged these two goals are not necessarily incompatible, as often witnessed by certain high school programs.⁵⁴⁶ It was Hornbake who credited John Dewey for urging industrial educators to be more socially sensitive. Credit for operationalizing Dewey's social beliefs, wrote Hornbake, goes to Richards and Bonser.⁵⁴⁷

During the thirties the spirit of nationalism rapidly increased with a commensurate increase in pleas for democratic industrial education. Bonser contended that schools face the following three basic problems: to create an atmosphere in which students initiate learning rather than succumb to imposed tasks; to enlist a motivating spirit whereby students sense the personal satisfactions in work beyond material rewards; and to bring about a democratic administration within schools. The teacher, wrote Bonser, must be responsible for bringing students into contact with interesting studies from which students can create, originate, and experiment. Otherwise natural growth is stifled

⁵⁴⁶L. F. Ashley, "Chronological Development of the Industrial-Arts Concept," Industrial Arts and Vocational Education, XXVI (October, 1937), 311.

⁵⁴⁷Ralph Lee Hornbake, Professional Progress in Industrial Arts Education (Columbus: Epsilon Pi Tau, Inc., 1951), p. 7.

and the experience had best not be called education.⁵⁴⁸ Griffith had previously charged, "Democracy cannot stand sponsor for an Aristotelian philosophy of industrial education."⁵⁴⁹

Furthermore, Bonser held, the school is bound to foster a cooperative experience in which students can experience the meaning of social living. "Any form of school procedure which emphasizes isolated individualism at the cost of the appreciation of cooperative relationships and an attitude of breadth and sympathetic social interests is undemocratic and un-American."⁵⁵⁰

Often at this point comes the seeming conflict between the needs of the individual and those of society. Hornbake contended that schools must provide for individual needs, which ultimately are derived from the culture anyway. It follows for Americans that the culture or way of life is democratic. Thus it is logical that if a society purports to be democratic, an opportunity for realization of individual needs becomes implicit.⁵⁵¹ Consequently, Hornbake held that a principle for American education is that, "Democratic education is the search for and development of unique

⁵⁴⁸Bonser, Life Needs and Education, pp. 31-32.

⁵⁴⁹Griffith, Teaching Manual and Industrial Arts, p. 52.

⁵⁵⁰Bonser, Life Needs and Education, p. 33.

⁵⁵¹R. Lee Hornbake, "A Place for the Arts in the Elementary Program," Western Arts Association Bulletin, XXI (September 1, 1937), 50-58.

talents."⁵⁵² It must then be obvious the ramifications this principle holds for curricular offerings.

Theodore Struck concurred with Hornbake's ideas by stating a belief industrial arts holds an important place in the American educational system.

If purposing, planning, executing, and evaluating are educational, then industrial arts is educational, for that is the stuff of which the daily work is composed. If socially centered instruction draws its ideals, its materials, its methods, and its techniques from contemporary life, then industrial arts offers rare opportunity to teach in the interests of a better social order.⁵⁵³

The usual informality of industrial arts, wrote Warner, provides for far greater opportunity for the development of desirable social traits.⁵⁵⁴ There are those who fear greater freedom in attempt to foster democratic education leads to various forms of anti-social behavior. Bonser countered that freedom for worthwhile activities reaps self-control. He acknowledged the task facing proponents of democratic education was not easy. "To make the world safe for democracy is a laudable and difficult educational endeavor, but to make democracy safe for the world is equally laudable and even more difficult and important."⁵⁵⁵

⁵⁵²Hornbake, "Industrial Arts for All," p. 12.

⁵⁵³F. Theodore Struck, "The Challenge of Industrial Arts," Industrial Arts and Vocational Education, XXV (October, 1936), 295.

⁵⁵⁴Warner et al., A Prospectus for Industrial Arts in Ohio, p. 53.

⁵⁵⁵Bonser, Life Needs and Education, p. 235.

Part of the problem, according to Hornbake in the early fifties, is the ease with which curricular change is buried beneath insignificant activities. Curricular change cannot come about without a change in attitudes. These are attitudes about content derived from current and future industrial practices, pedagogical attitudes supported by sound, empirical research, and social attitudes about a way of life which for Americans is democratic. Hornbake sadly observed that too often industrial arts curricula could be transported intact to authoritarian states.

Make no mistake about it, the number one curriculum principle for Industrial Arts education is the derivation of content and method from well-defined assumptions pertaining to human growth, behavior and learning and from well-defined assumptions pertaining to social purpose. We cannot escape this even though we work in an area of material, tangible [sic] things and even though, as a professional group, we have shied away from anything which smacks of philosophy.⁵⁵⁶

Similar beliefs were expressed by Bonser. He held that citizenship must be an integral part of the curriculum. Industrial arts, he wrote, affords an excellent opportunity for citizenship to be practiced.⁵⁵⁷

"An education of ideas only is socially dangerous," wrote John Friese. He believed that industrial education students who experience an exploratory curriculum are

⁵⁵⁶R. Lee Hornbake, "Curriculum Principles," Speech given at the American Vocational Association Convention, Boston, Mass., December 3, 1952, p. 2. (Mimeographed.)

⁵⁵⁷Bonser, The Elementary School Curriculum, pp. 399-401.

afforded an opportunity to learn about occupations in a way superior to recorded observations of others. Furthermore students learn about themselves whereby they can begin to make sound occupational plans. Friese believed that contentment with one's career forestalls being duped into "extreme and radical doctrines."⁵⁵⁸

Curriculum

There are three approaches in curriculum making, according to John Ludington. His analysis strongly resembles those now made by open educators.

One approach, wrote Ludington, is traditional with an assumption that there is an identifiable body of knowledge which all students need to learn. Primary consideration is given to facts and skills instead of individual needs and interests. Clearly Ludington rejected this approach.⁵⁵⁹

It wasn't so much that industrial arts leaders totally rejected teaching certain basic skills but rather questioned the time being consumed. Bonser contended that the point of diminishing returns has been exceeded and therefore other educational activities should receive greater priority.⁵⁶⁰

⁵⁵⁸John F. Friese, "Social Security and Industrial Education," Industrial Arts and Vocational Education, XXVI (April, 1937), 115.

⁵⁵⁹John R. Ludington, "Approaches in Elementary Curriculum Making," Western Arts Association Bulletin, XXI (September 1, 1937), 57-58.

⁵⁶⁰Bonser, Life Needs and Education, p. 178.

As a replacement for the subject-matter curriculum, Bonser recommended the activity curriculum. "Differing from a subject-matter curriculum dealing with ideas about these activities, it provides practice in the activities themselves."⁵⁶¹ Bonser argued that an activity curriculum need not promote the demise of intellectual rigor. It is the type of activity which makes the difference. Furthermore he believed that the activity curriculum is wholly appropriate for all grade levels although its dominance may be altered with older students.⁵⁶²

The core curriculum approach is another possibility with concentration toward a project. Subject areas are drawn upon as the need arises. Naturally teachers utilizing the core curriculum need to be ingenious and knowledgeable in many areas.⁵⁶³ There were those who believed that the core curriculum should be centered around the practical arts rather than social studies. George Cox held that the real problems of life should define the curricular core.⁵⁶⁴ It was pointed out by Bonser, however, that it is unwise to use industrial arts or any other subject as a core center. The result would be, he wrote, "artificial and strained." Bonser explained,

⁵⁶¹ Ibid., p. 200.

⁵⁶² Ibid., pp. 200-201.

⁵⁶³ Ludington, op. cit., pp. 57-58.

⁵⁶⁴ George B. Cox, "What Next in Progressive Education?," Industrial Arts and Vocational Education, XXVI (July, 1937), 207-209.

One may well hold to the principle that industrial arts should receive a proportion of attention in school corresponding to the importance of the problems of the consumer and citizen relative to industrial materials and products outside of school -- no more, and no less.⁵⁶⁵

Hornbake believed that at least industrial arts teachers should logically serve as valuable resource personnel for a core curriculum.⁵⁶⁶ Perhaps Bonser voiced one of the most comprehensive attitudes toward the core curriculum and its focus.

Broadly interpreted, it is my conviction that the facts and conditions justify the life career motive as a dominating, unifying interest for secondary school programs. But this interpretation includes as parts of a life career not only occupational efficiency, but efficiency as a consumer, as a citizen, as a homemaker, as an intelligent guardian of health, and as a participant in wholesome recreation for body, intellect, and the appreciative life.⁵⁶⁷

Another curricular possibility advanced by Ludington is the integrated approach, which centers on real problems as they arise. Ludington contended that a curriculum must demonstrate unity if it is to reflect the interrelationships of life's problems.⁵⁶⁸

Others echoed Ludington. Hornbake argued against a curriculum void of expressing the "mutual inter-relationships." He asked, ". . . how can the child be expected to take the Arts in separate 'doses' and integrate them in his

⁵⁶⁵Bonser, Life Needs and Education, p. 205.

⁵⁶⁶Hornbake, "Industrial Arts for All," p. 13.

⁵⁶⁷Bonser, Life Needs and Education, pp. 45-46.

⁵⁶⁸Ludington, op. cit., pp. 57-58.

limited range of experience" when his teachers fail to teach in an integrated fashion?"⁵⁶⁹ The integration being sought must focus upon the child, wrote Warner. Emphasis on integrating the content with little concern for the student still misses educational purpose.⁵⁷⁰

Industrial arts has a particularly unique potential for both correlation and integration within the curriculum.⁵⁷¹ There are those who seemingly take great pride in being associated with a subject area so pure and with easily recognizable parameters as to be called a discipline. Bonser and Mossman rejoiced that industrial arts is not a discipline but rather an area of study which integrates the curriculum by replacing artificial boundaries.⁵⁷²

No other phase of school work has such great possibilities for bringing about this unity of school and life experience as the industrial arts when taught with proper regard to the broad relationships of its problems and its content.⁵⁷³

However, there is danger industrial arts educators may become complacent by being satisfied that industrial arts is not in need of improvement. Others such as Warner cautioned

⁵⁶⁹Hornbake, "A Place for the Arts in the Elementary Program," p. 57.

⁵⁷⁰Warner et al., A Prospectus for Industrial Arts in Ohio, p. 18.

⁵⁷¹Friese, "Social Security and Industrial Education," p. 115.

⁵⁷²Bonser and Mossman, op. cit., p. 68.

⁵⁷³Ibid., p. 75.

that industrial arts still continues to be conceived on too narrow a conceptual basis.⁵⁷⁴

There were those who expressed certain reservations about integrating the curriculum. George Cox wrote,

The education of the "whole" child is a good phrase but the sponsors of the integrative curriculum should remember that a brick wall is built a brick at a time -- not all at once. Differentiation precedes integration. Children learn most readily from specific cases, and then pass on to generalizations or to a treatment of "the whole."⁵⁷⁵

Similarly John Friese supported industrial arts being correlated with other subjects but was skeptical whether industrial arts should be completely integrated. He wrote,

In such an organization, industrial arts becomes a handmaiden of other subjects, an agency which benefits other branches of instruction. This is the Herbartian point of view.⁵⁷⁶

Methods

Reminiscent of manual training leaders, the leaders of manual arts and industrial arts have directed considerable attention to selecting appropriate methods. Delmar Olson provides the salient characteristics of methods employed during the development of industrial education. He describes manual training as utilizing dictated exercises, followed by manual arts characterized by the assignment of

⁵⁷⁴William E. Warner, "How Do You Interpret Industrial Arts?," Industrial Arts and Vocational Education, XXV (February, 1936), 33-35.

⁵⁷⁵Cox, op. cit., p. 208.

⁵⁷⁶John F. Friese, Course Making in Industrial Education (Peoria: The Manual Arts Press, 1946), p. 159.

useful and artistic projects, and now industrial arts emphasizing projects which are both individually selected and creatively executed.⁵⁷⁷

As a leader during the manual arts era, Ira Griffith devoted considerable energy to determining appropriate methodology. He concluded three methods are available. The first of which is the deductive or imitative method by which the teacher describes and demonstrates exactly what students are expected to accomplish. Griffith considered the deductive method as an efficient form of instruction but not necessarily education because of its inherent quality of inhibiting resourcefulness. Dependence on the teacher too often results from this method.⁵⁷⁸

The inverse, wrote Griffith, is the inductive or heuristic method. Sometimes the inductive method is interpreted as the inventive method whereby spontaneity leads the student to becoming self-directed. It then becomes the teacher's task to intercede only when the student is pursuing a route of obviously little value.⁵⁷⁹

It thus became Griffith's thesis that a combination of the foregoing becomes the "complete" method. The teacher must, like Froebel, monitor and adjust the methods as circumstances dictate.

⁵⁷⁷Delmar W. Olson, The Evolution of Industrial Arts (Columbus: Epsilon Pi Tau, 1957), p. 20.

⁵⁷⁸Griffith, Teaching Manual and Industrial Arts, pp. 154-155.

⁵⁷⁹Ibid., pp. 156-157.

Creative effort, discovery, or invention, is of slight value until based upon a knowledge of, and a fair degree of skill in, the conventions of the activity in which the creative effort is to be. Instruction in conventional methods of procedure is of slight value unless based upon a feeling of real need thru spontaneous activity or activity not directed and controlled by instruction.⁵⁸⁰

John Friese amplified upon Griffith's beliefs by identifying types of thinking found with each method. Associative thinking, wrote Friese, is a primary form but random in nature. It often tends to be found in students experiencing the deductive method. Conversely, selective thinking utilizing reason is "found in the leader-inventor class" and is often the product of the inductive method. Friese, however, appreciated that associative must precede selective thinking. Correspondingly, methods must vary as circumstances dictate. For this reason Friese agreed with Griffith's "complete method."⁵⁸¹

It was Friese's belief that the practical arts alone made use of many senses in the classroom.⁵⁸² Similarly Robert Selvidge observed the idiosyncratic nature of learning which necessitates flexibility of methods.⁵⁸³

⁵⁸⁰Ibid., p. 157.

⁵⁸¹Friese, "Manual Arts Teaching Methods, a Vehicle for Developing Procedure in Reasoning," pp. 45-47.

⁵⁸²Friese, "Social Security and Industrial Education," p. 115.

⁵⁸³Robert W. Selvidge, "Teaching Is An Individual Process," Industrial Education Magazine, XXXII (August, 1930), 33-34.

Thus the project method popularly advocated by William Heard Kilpatrick, a protégé of Dewey, continued to receive recognition. The project with its emphasis upon reality and student initiative found its genesis in industrial and agricultural education.⁵⁸⁴ Bonser was perturbed that the project or activity method was popular at the elementary and collegiate level but often lacking at the secondary level.⁵⁸⁵ The project method, wrote Bonser, abounds in opportunity whereby students can spontaneously "be led to engage wholeheartedly" in purposeful activities.⁵⁸⁶ Bonser amplified his belief in appropriate educational ends and methods.

The method in every art is clearly learning through participation, learning by doing, working with interest rather than against it, within the range of capacity rather than beyond it, in harmony with natural, social life rather than remote from it, in all instances, with a "real motive beyond and a real outcome ahead." . . .

. . . Our very social structure depends upon a recognition of and adjustment to our interrelationships and interdependence, yet little has been done to cultivate an appreciation of these relationships.⁵⁸⁷

Later Gordon Wilber elaborated on operationalizing the project method. His analysis is somewhat moderate and perhaps illustrative of the late 1940's up to the present.

One approach is to have all projects assigned, thus assuring attainment of predetermined goals. This method is

⁵⁸⁴Friese, "Social Security and Industrial Education," p. 115.

⁵⁸⁵Bonser, Life Needs and Education, p. 53.

⁵⁸⁶Bonser, The Elementary School Curriculum, p. 89.

⁵⁸⁷Bonser, Life Needs and Education, pp. 195-196.

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easy to teach but stifling in its regimentation. "The conscientious industrial arts teacher will wish to consider seriously the limitations of arbitrarily assigned projects in light of all of his objectives before adopting this technique."⁵⁸⁸

The choice within groups approach attempts to provide for individual differences and aspirations while assuring predetermined goals are met. Wilber clearly favored this method.⁵⁸⁹

The free choice method is the most liberal by its implicit faith in the student's ability to wisely select his projects. Wilber felt only a clever teacher could employ this method to advantage without wasting time and materials.⁵⁹⁰

Hornbake recounted how curriculum builders once felt their task was complete once the content had been identified and sequenced. However, wrote Hornbake, content and method are inseparable. In effect the method becomes the content and vice versa.⁵⁹¹

Trade and Job Analysis

The systems approach to education which is currently receiving considerable attention surely is not new to

⁵⁸⁸Wilber, op. cit., pp. 163-164.

⁵⁸⁹Ibid., p. 164.

⁵⁹⁰Ibid., pp. 164-165.

⁵⁹¹Hornbake, "Curriculum Principles," p. 4.

industrial education. Although perhaps crude, the work of Russia's Della Vos and others engaged in manual training was demonstrative of the systems approach. By the late twenties and early thirties, trade and job analysis procedures utilized in industrial training programs had achieved an impressive degree of sophistication. The practice is perhaps one of the most volatile issues to have surfaced in industrial education. Furthermore the issue yet remains unresolved.

Two of the most prominent advocates of trade and job analysis were Robert Selvidge and Verne Fryklund. Their 1930 Principles of Trade and Industrial Teaching received considerable acclaim from certain industrial educators. The authors devoted considerable effort to designing an elaborate tally system for job analysis. Each endeavor was thereby broken down to specific operations. Furthermore Selvidge and Fryklund buttressed their system on a theory of learning including the work of Judd. Selected quotations are illustrative of their attitudes.⁵⁹²

The first step in teaching is to determine the things you must teach in order to make the individual into what you wish him to be. . . .

Having determined the things in which the individual should be trained, these things should be analyzed into learning units, suited to the capacity of the individual, and arranged into a convenient form for instruction.⁵⁹³

⁵⁹²R. W. Selvidge and Verne C. Fryklund, Principles of Trade and Industrial Teaching (2d ed. rev.; Peoria: The Manual Arts Press, 1946).

⁵⁹³Ibid., p. 85.

The pupil is entitled to know what he is expected to learn.⁵⁹⁴

It is the duty of a teacher to present a demonstration skilfully and with ease in order that the learners may be encouraged to acquire the same mastery.⁵⁹⁵

Fryklund analyzed two types of learning -- "incidental," which depends upon spontaneity without identifying predetermined goals versus the "organized" system, which preplans goals, criteria, and evaluation. It was Fryklund's contention that true creativity can only take place in a well organized system rather than in a "hit-or-miss" fumbling spontaneous experience. Consequently, he held that the systems approach needs no apologies and is thus worthy of adoption by industrial arts.⁵⁹⁶

Gestalt psychology was reviewed by Fryklund as only being somewhat tangential to industrial arts experiences. Perhaps, he reasoned, we do learn by patterns, as argued by the Gestaltists, but the question arises as to size of the learning pattern. Fryklund continued to argue that learning is specific rather than general.

Gestalt psychology is merely a good explanation of how we learn under whatever plan of instruction. It does not say that lessons in industrial teaching are too small, nor does it say that instructional units must be discovered by learners.⁵⁹⁷

⁵⁹⁴Ibid., p. 96.

⁵⁹⁵Ibid., p. 163.

⁵⁹⁶Verne C. Fryklund, "Organization and Learning in Industrial-Arts Education," Industrial Arts and Vocational Education, XXVII (March, 1938), 112-113.

⁵⁹⁷Fryklund, "From Concepts to Techniques," p. 114.

Accordingly Fryklund advocated the stimulus-response theory of learning. He wrote,

The learning experiences must be selected and arranged in terms of desired outcomes. There must be analysis of these outcomes and provision made for the details, because the details together form the completed structure. . . . because learning is specific; and the student will learn only what has been taught to him, plus some concomitant things.⁵⁹⁸

Consequently, argued Fryklund, the system must be used as a form of self renewal to exclude "outmoded exercises."

Robert Selvidge in similar fashion had attacked the Montessori and Gary systems, which John Dewey had praised.

Whatever fine spun theories our great educators may have about "self-directed activities, etc.," disorder and confusion are the inevitable results and constitute conditions absolutely opposed to effective teaching or to the development of proper habits. This harem-scarem, do-as-you-please attitude in the school and in the home is responsible for some of our most serious social problems.⁵⁹⁹

The solution, contended Selvidge, is for each teacher and student to prepare a work plan. "The following is an example of an instruction sheet for repairing a leaky faucet."⁶⁰⁰

Selvidge and Fryklund were supported in certain quarters for their beliefs in systematizing industrial education. Arthur Mays agreed that self-control was lost when students

⁵⁹⁸Verne C. Fryklund, "Learning is Specific," Industrial Education Magazine, XXXIX (May, 1937), 146.

⁵⁹⁹R. W. Selvidge, "The Real Job," Industrial Education Magazine, XXV (August, 1923), 37.

⁶⁰⁰Ibid.

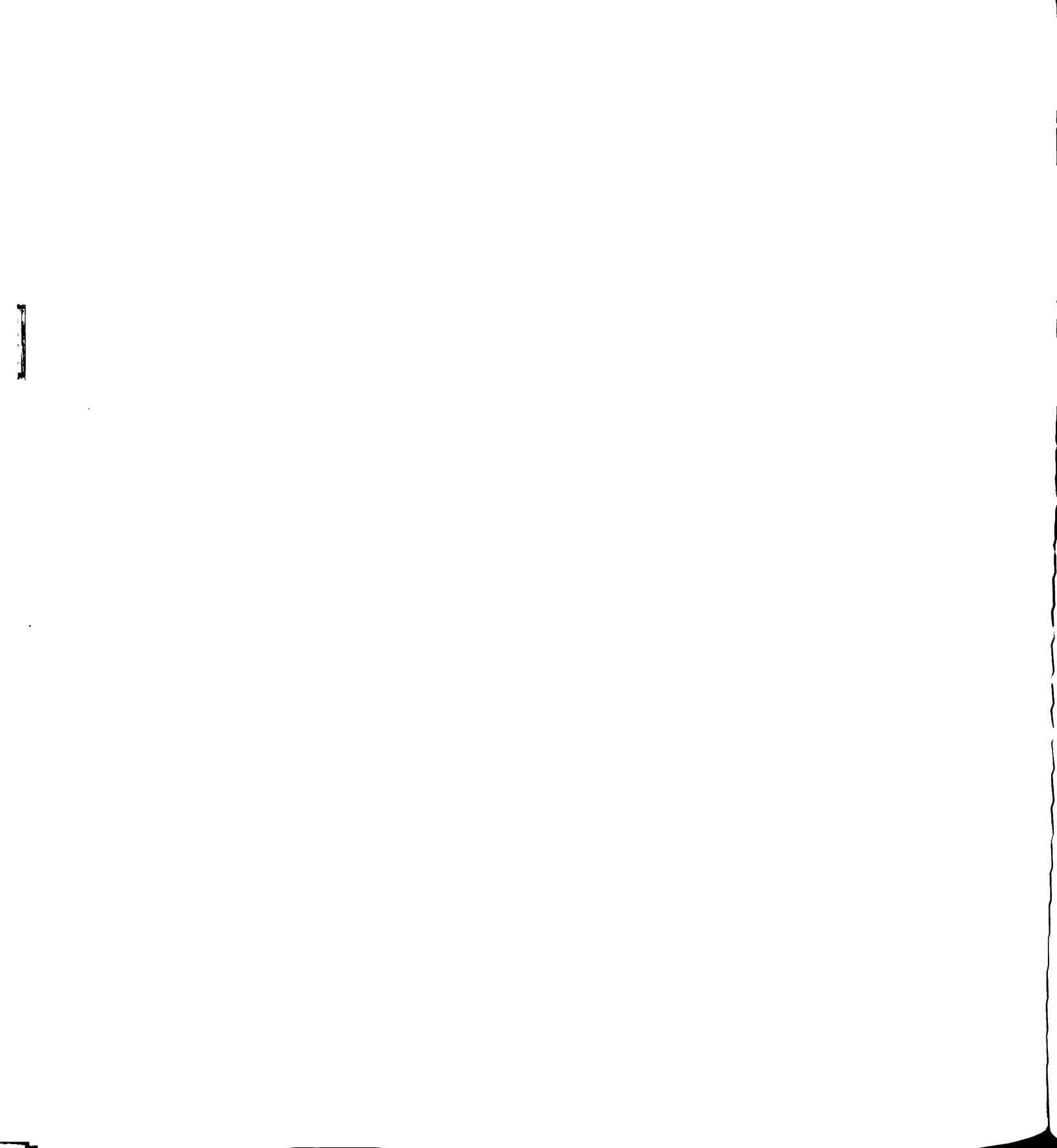
were permitted to engage in unplanned activities. He felt that all goals must be predetermined to which students must conform.⁶⁰¹ During an era of economic recession Mays charged that the manual arts programs were hampered by "lack of standardization" and "clearness of purpose."⁶⁰²

One of the more popular evidences of the systems approach to industrial education was the adoption of instruction sheets. Industrial educators had developed instructional sheets in an attempt to serve individual differences. Students thereby could proceed at their own pace by relying upon instruction sheets as well as the teacher. Specific instructions were prepared to facilitate a host of shop processes, which, claimed Selvidge, was the best solution to insure efficiency and accuracy.⁶⁰³ Just as the trade and job analysis approach, including its accoutrements, had advocates so too were there vociferous opponents. Taking a somewhat moderate position, John Friese indicated the administrative advantages of instructional sheets providing efficiency were often counteracted by serious educational disadvantages. Such a mechanistic device, wrote Friese, tends to inhibit interpersonal contact between student and teacher, which is so crucial if schools are to be more humanized. Likewise

⁶⁰¹Arthur B. Mays, "Practical Arts as Moral Education," pp. 165-168.

⁶⁰²Arthur B. Mays, "The Enrichment of Manual Arts," Industrial Arts Magazine, XII (April, 1923), 131-134.

⁶⁰³R. W. Selvidge, "Teaching of Related Subjects," Industrial Education Magazine, XXVIII (March, 1927), 275-278.



instructional sheets tend to foster dependence upon the teacher through his printed recipes. Problem solving competencies utilizing reasoning are thus not exercised and developed. Furthermore children with reading difficulties are discriminated against when instruction sheets are utilized. Friese also charged, "There is frequently weak correlation between the specific purpose of the sheet and the references listed."⁶⁰⁴

Charles Bennett had earlier attacked the systems approach as it appeared during the manual training era. He believed that democratic values were crushed when students were driven into what to think and do.

In the early days of the manual training "systems" the most perfect system was the one that had been most completely thought out in every detail by the teacher and all the facts and data recorded on blueprints or otherwise so that all that the pupil was required to do was to follow directions exactly as given to him. . . . It is hardly necessary to remark in passing that this system was developed in a country where a czar was the ruler of the people and that the original system was developed to train mechanics for the government railway service; neither should it be necessary to remark that industry in America has sometimes been so short-sighted as to say that it did not hire workmen to think but merely to do as they were told.⁶⁰⁵

Others were equally adamant. Perhaps the words of Arthur Dean were both strongest and most sincere.

WELL! Some of us have not changed. Some still teach subjects to boys instead of introducing

⁶⁰⁴Friese, Course Making in Industrial Education, p. 140.

⁶⁰⁵Bennett, "Changes in Manual Arts Instruction in Relation to Changes in the Philosophy of Education," p. 363.

boys to subjects. Some still put the proper use of the tool before anything else. Some had rather show a beautifully made model than interest themselves in what the boy got out of it in its making. Some still prefer merely a sheet of some job analysis instead of preparing in addition an analysis of the boy who is to use the job sheet.⁶⁰⁶

We spent more time discovering how to sharpen a chisel than how to sharpen a boy's wits; more in laying out work with a square than squaring our work with boys; more in making working drawings than in drawing conclusions; more in finishing a board than in boarding together instincts of boys. And the curse of it is that some folks are still training teachers of shopwork in that same way, except that they have substituted that wonderful sounding term "job analysis." Lord knows we need a job analysis of our job, but the first job is to analyze the boy we are teaching. Let me say right here, that I know of no more serious mistake than the one we are now committing, -- of training teachers of shopwork under the Smith-Hughes plan of training teachers for vocational education, and afterwards using these teachers in teaching in junior high schools. What they know about job analysis will fill a 300-page book. What they do not know about boys would crowd a five-foot book shelf.

I have spoken strongly because I feel strongly that we have, perhaps unconsciously, got back to an old, old idea -- the sequential use of tools and tool processes. An idea which is as perfectly sound for trade teaching as it is perfectly foolish for junior high school teaching.⁶⁰⁷

Fear of standardization continued. Bick warned that standardization would lead to a "self-satisfying opiate" which utilized the "average philosophy as the ideal." Like open educators who recognize their success is dependent upon

⁶⁰⁶Arthur Dean, "Change in Our Attitude toward Boys," Industrial Education Magazine, XXVI (March, 1925), 264.

⁶⁰⁷Ibid., pp. 265-266.

the citizenry perception of education and life, so too did Bick demonstrate an awareness. "Our work is judged by the citizen on the basis of its interpretation of life."⁶⁰⁸

Opposition of trade and job analysis techniques was voiced in many quarters. William Warner contended that research indicated trade teaching techniques are wholly inappropriate for industrial arts.⁶⁰⁹ On another occasion Warner confessed how he had been taught to prepare 3"x5" cards for both jobs and trade analysis. Later he came to realize how the practice unfilled the potential and role of industrial arts.⁶¹⁰

It was Hornbake's belief that the evolving industrial arts programs became maligned by adopting job and trade analysis approaches. The result was an obsession on the system while ignoring both the students and the changing technology to which students were to be introduced.⁶¹¹

Are we to use experiences taken from the arts of industry to discover and develop the traits and talents of boys and girls--a drawing-out process (education--educere, to lead or draw out) or are we to think of our content as a body of adult-centered skills and knowledges which we are

⁶⁰⁸Alexander Frederick Bick, "Some Dangers in Standardization," Industrial Education Magazine, XXXVIII (September, 1936), 205.

⁶⁰⁹William E. Warner, "Industrial-Arts Research," Industrial Arts and Vocational Education, XXIV (February, 1935), 38-44.

⁶¹⁰William E. Warner et al., An Industrial Arts Curriculum to Reflect Technology at All School Levels (Columbus: Epsilon Pi Tau, 1947).

⁶¹¹Hornbake, "Industrial Arts for All," p. 10.

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obliged to develop in the neuro-muscular systems of pupils? Obviously the teacher assigned or teacher suggested project, accompanied by paced demonstrations and a few related lessons or sheets in a workbook, implies a preference for the latter. The diverse learning outcomes claimed for industrial arts cannot result from this limited teaching and any effort to incorporate teaching methods oriented in the learner-centered approach is incongruous. . . .

. . . Many industrial arts teachers know of no alternatives and most pre-service and in-service teacher education programs follow the plan which in no way differs from manual arts.⁶¹²

Hornbake went on to castigate trade and job analysis methods. He argued that the goals of industrial arts cannot support a rigid system.

The point of view is not ground-to-be covered, but child growth and development -- social, emotional, mental, and physical development -- assuming that these aspects can be considered separately even for discussion.

This view means that for classroom practice there is no place for: prescribed and rigid programs; lesson plans that set up steps to be followed; work sheets or any other device that narrows the scope of the program, that mechanizes learning, or that censors thinking. Direct effort should be made to enrich the program. Methods making for enrichment include many forms of activity . . .⁶¹³

Perhaps most representative of a majority of industrial arts leaders during the latter 1940's and 1950's was the point of view expressed by Gordon Wilber. He acknowledged instruction sheets helped promote individualized instruction but created serious problems including substitution for thinking. Instead Wilber advocated each student prepare his own

⁶¹²Hornbake, "Time for Progress," p. 11.

⁶¹³Hornbake, "A Place for the Arts in the Elementary Program," p. 54.

plan sheet, thus promoting original thinking while pursuing individual activities.⁶¹⁴

Lesson Plans

Like open educators concerned over the use and misuse of lesson plans, industrial educators have engaged in similar discussions. Back during manual arts Ira Griffith acknowledged that lesson plans are vital, but an over dependence is dangerous.⁶¹⁵ Verne Fryklund, as might be expected, argued that there is no need to apologize for "system and order." In fact, he continued, it is a severe disservice for students not to know what is expected of them. "Much is owing him if he is expected to learn by chance."⁶¹⁶

Bonser and Mossman countered that while an instructional program requires planning, this is only to say the plan is "suggestive." Teachers should feel free to capitalize upon the unexpected although it may mean temporary abandonment of a particular lesson plan.⁶¹⁷

Student Evaluation

Attitudes toward grading practices have varied among industrial educators. Emanuel Ericson held to a rather orthodox viewpoint. He believed that it is unjust for a teacher

⁶¹⁴Wilber, op. cit., pp. 171-178.

⁶¹⁵Griffith, Teaching Manual and Industrial Arts, pp. 174-175.

⁶¹⁶Verne C. Fryklund, "Learning Integrates," Industrial Education Magazine, XXXIX (September, 1937), 199.

⁶¹⁷Bonser and Mossman, op. cit., p. 31.

to rely upon observations in the establishment of grades. It is far better, wrote Ericson, to grade at regular periods, including daily grades. Ericson also believed in encouraging classroom competition. He wrote,

If conditions permit, let the students know the grades of all other students of the class. Where this has been tried it has proved a healthy stimulus toward better work.⁶¹⁸

Others took another point of view indicative of an affinity with open education. Speaking of the pre-progressive education era, Bonser criticized the complacency associated with standardized textbooks, content, methods, testing, and equipment. He was pleased that the "almost hysterical" zeal for testing had begun to give way to sane concern for growth and development via intelligent use of test results.⁶¹⁹

William Hunter has served as one of the most outspoken critics of test misuse. He challenged teachers to continually examine whether tests foster democratic education. It clearly was his belief that test procedures were misused so as to reflect an Aristotelian society rather than democracy. Hunter castigated teachers who contend tests serve to motivate students.

. . . in order to make him drink water from the pedagogical pump some teachers proceed to "motivate" him with tests and measurements.

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⁶¹⁸Emanuel E. Ericson, "Grading Shop Work," Industrial Education Magazine, XXVIII (January, 1927), 227.

⁶¹⁹Bonser, Life Needs and Education, p. 24.

. . . Can pupils be induced to enjoy drinking stagnant water? Can pupils be motivated with senseless tests and yet kept sane and socialized?⁶²⁰

Tests can and should serve diagnostic purposes, agreed Hunter, but such purposes are so seldom realized.

Too many tests, however, are given with the seeming purpose of proving to the pupil that he doesn't know much anyhow, or that he does not know so much as the teacher does.⁶²¹

Instead tests have become at best a caricature of daily life.

Does the average successful individual put himself under great mental tension once a month or twice a year and cram for meeting the problems of life? Does he?⁶²²

Tests should also serve to diagnose teacher successes, wrote Hunter. In addition pupils should be permitted to grade their tests, thus demonstrating the teacher's faith and trust.⁶²³

For Hunter, tests too often are used as a replacement for teacher-student interaction. Too often, he charged, tests reduce the experience to routine -- not teaching.

Real education is creation, growth, discovery, synthesis, development, life, regeneration. Real education is not easily measureable [sic] by mechanized tests. Whenever education is reduced

⁶²⁰William L. Hunter, "Socializing Tests and Measurements," Industrial Arts and Vocational Education, XXVII (January, 1938), 5.

⁶²¹Ibid., p. 6.

⁶²²Ibid.

⁶²³Ibid.

to training, to pouring in, to storing, to absorbing, to telling, to fixing, or to drilling, then many tests can be used, but real education hasn't taken place.⁶²⁴

It was Hunter's belief that test builders worked on several faulty assumptions, including the dogma that "knowledge is power" and the predictability of I.Q. scores. The student remains captain of his fate regardless of predictions through test scores. Too often, wrote Hunter, students are coerced into providing what is perceived as the teacher's answer rather than what the student actually believes. Furthermore an over reliance on tests tends to foster dependence upon antiquated and irrelevant subject matter.⁶²⁵

Most pupils under the pedagog-centered setup realize that the teacher has them under his power. Like sponges, the pupils are compressed and repressed into soaking up the dogma which the demagog believes should be soaked up. And at examination time, the sponges are again compressed by a most efficient mechanical squeezer known as an objective test. Surely our educational Utopia must be close at hand!⁶²⁶

Too often students devote considerable energy to studying the teacher rather than the subject. Nevertheless, Hunter believed tests could serve socially desirable purposes. Therefore Hunter urged teachers to assign certain tests less importance.

⁶²⁴Ibid., p. 7.

⁶²⁵William L. Hunter, "Socializing Tests and Measurements," Industrial Arts and Vocational Education, XXVI (December, 1937), 405-406.

⁶²⁶Ibid., p. 406.

We can't expect students to be honest when teachers themselves don't have the sense of honor to assign to pencil-and-paper tests the relative insignificance which belongs to them.⁶²⁷

Individual Needs

Like today's open educators, many industrial education leaders have over the years devoted themselves to providing for individual needs of students. Ira Griffith demonstrated an attitude while resolving between the needs of the individual versus societal needs, which is reminiscent of Dewey's "Either-Or fallacy." Griffith contended that content was derived from societal needs while method was determined by individual needs.⁶²⁸

Are you an "individualist," insisting that no two souls are exactly alike, therefore individual instruction is the only method? Our government is not organized upon any such basis. A government based upon such principles would be no government at all; it would be anarchy. Are you a formalist, insisting that all pupils must attain the same standards and pass thru exactly the same experiences? A liberty loving people do not take kindly to such doctrine in any other organization. Let us make a study of individual differences, and see if we cannot formulate a manual arts system which will permit liberty within law educationally even as we have it governmentally.⁶²⁹

Griffith believed that no amount of activity toward arranging content in "logical" sequences is successful

⁶²⁷Ibid., p. 407.

⁶²⁸Ira S. Griffith, "Individual Differences and How to Provide for Them in the Manual Arts," Manual Training and Vocational Education, XVII (February, 1916), 415.

⁶²⁹Ibid., p. 427.

without attention to the needs and desires of youth.⁶³⁰ It was into such a consideration that Bonser identified two common curricular errors. One of which is to select appropriate content and experiences but to commit errors of timing. "The assignment of school tasks is often very much like requiring one to eat when one is not hungry."⁶³¹

The other error, wrote Bonser, is to foist off on the curriculum experiences of little or no consequence. Rational curricular priorities would free students for more time to engage in depth those experiences which are so meaningful.⁶³²

There has been some question as to what degree a student is capable of determining his educational needs. Fryklund argued that students are usually not too self motivating. Therefore the teacher is obligated to provide pre-selected experiences which the student can draw upon. "The individual is not aware of what he does not know."⁶³³

Hornbake was prompt to discourage the excesses to which industrial arts teachers can fall victim. Teachers, contended Hornbake, are not to simply begin class by asking students, "What do you want to do today?" The result, he

⁶³⁰Ira S. Griffith, "The Boy or the Trade as an Aim?," Manual Training and Vocational Education, XVII (September, 1915), 1-5.

⁶³¹Bonser, The Elementary School Curriculum, p. 22.

⁶³²Ibid., pp. 20-21.

⁶³³Verne Charles Fryklund, "Intent to Learn," Industrial Education Magazine, XXXIX (March, 1937), 93.

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warned, is usually capricious. Teachers are responsible for studying students to sensibly guide toward meeting individual needs. Accordingly Hornbake noted research which indicates each student tends to vary within traits. In other words, students vary among themselves and also within themselves.

Furthermore Hornbake suggested industrial arts is still incomplete if it only is satisfied to meet individual needs. It must help each student internalize the significance of the industrial arts experience. "In brief, does he feel more adequate in an industrial society?"⁶³⁴

Similarly homogeneous grouping captured the attention of Bonser. He wrote, "No matter how much attention is given to the classification of children with respect to likeness, there is no such thing as complete homogeneous grouping."⁶³⁵ Warner, too, held reservations over the concept of standardization. Industrial arts, he declared, should become a "point of departure" to reflect and employ individual differences.⁶³⁶

Perhaps a brief but potent statement by Hornbake about individual differences has the most profound implications for industrial arts curriculum construction. He wrote, "Industrial arts for all should also mean industrial arts

⁶³⁴Hornbake, "Industrial Arts for All," p. 12.

⁶³⁵Bonser, Life Needs and Education, p. 248.

⁶³⁶Warner et al., A Prospectus for Industrial Arts in Ohio, p. 26.

for each.⁶³⁷ In other words, industrial arts cannot realize its claim as general education by offering but one curriculum for all, regardless of individual needs and differences.

Interest and Creativity

Industrial educators have attached concern for student interest as do open educators. Long ago Charles Richards called attention to how industrial education students enjoyed their subjects. Interest and enjoyment are so intertwined.⁶³⁸ John Friese assigned both interest and pleasure as central to the success of manual arts.⁶³⁹

Yet others were fearful when industrial education had the appearance of play. Ericson was concerned that manual arts not resemble a play and relaxation period for fear of the impression left upon visitors.⁶⁴⁰ The value of spontaneity within industrial education was recognized. However, Selvidge was doubtful whether immature youth can properly select appropriate activities. Selvidge wrote, "It is the teacher's business to develop an interest in the things they should be interested in."⁶⁴¹

⁶³⁷Hornbake, "Industrial Arts for All," p. 1.

⁶³⁸Richards, op. cit., p. 111.

⁶³⁹John F. Friese, Exploring the Manual Arts (New York: The Century Co., 1926), p. 65.

⁶⁴⁰Emanuel E. Ericson, "Aiming at the Bull's Eye," Industrial Education Magazine, XXV (September, 1923), 65-66.

⁶⁴¹Robert W. Selvidge, "Interest and the Shop Teacher," Industrial Education Magazine, XXXIII (September, 1931), 59.



Selvidge agreed with others that society determined content while interest determined method. He was, however, very opposed to student originality while acquiring facts and skills. "There is no more reason for encouraging originality in this than there is in spelling." The place for capitalizing upon interest via originality and freedom is when students engaged in problem solving activities -- not skill development, charged Selvidge.⁶⁴²

As to be expected, there were those with contrasting beliefs. Bonser wrote, "Man is naturally curious, exploratory, investigative." Yet Bonser was fearful that student interest and motivation easily becomes stifled under autocratic teachers and administrators. "Unless there is a spirit of democracy and creative effort among these in their relationships to each other and to the children, how can we expect this spirit to exist among the children themselves?"⁶⁴³

Very much akin to Dewey's beliefs, Bonser argued that the interests of childhood serve both the present and future. The school's and teacher's task is therefore to foster such natural developments. School problems acted upon by children must not simply provide deferred value but rather satisfy immediate needs.⁶⁴⁴

⁶⁴²Robert W. Selvidge, "Principles and Purposes of Vocational Analysis," Industrial Education Magazine, XXXII (February, 1931), 252.

⁶⁴³Bonser, Life Needs and Education, p. 34.

⁶⁴⁴Bonser, The Elementary School Curriculum, pp. 18-19.

This is certainly not to infer Bonser negated the value of past "race experiences." He believed there is opportunity for balance when neither the "conservative phase" nor the "progressive phase" becomes excessive. He wrote,

Neglect of the conservative element means a loss of the experiences of the past and the development of radical and superficial tendencies; neglect of the progressive element makes for passiveness, dogmatism, and the exaltation of authority.⁶⁴⁵

Warner, too, sought to utilize student interest. His definition of the practical arts, including industrial arts, is illustrative of his beliefs.

Practical-Arts Education is a form of general or nonvocational education which aids or enriches everyday life principally through purposeful activity. Its method is typically doing things; that is, taking part in activity directed toward some present useful purpose, rather than merely acquiring facts or skills for their own sake, or for possible deferred values. . . . Any subject may be taught as a Practical Art if presented so as to satisfy the two major requirements of proximate usefulness through socially purposive experience or participation.⁶⁴⁶

Industrial arts is most fortunate to possess inherent opportunities to utilize interest for creative expression. If not thwarted at an early age, all children show creative impulses.⁶⁴⁷ A host of activities via problem

⁶⁴⁵Bonser, Life Needs and Education, p. 187.

⁶⁴⁶Ashley, op. cit., p. 311.

⁶⁴⁷Bonser and Mossman, op. cit., p. 23.

solving approaches serve to make industrial arts a fore-runner in creative expression.⁶⁴⁸

Teacher's Role

Industrial educators have demonstrated a variety of attitudes toward the role of the teacher, some of which must be interpreted as open education. In his review of the Gary schools Charles Richards expressed pleasure toward the empathic nature of the industrial education teachers. Their recruitment appeared to depend upon their attitudes toward children as well as technical expertise.⁶⁴⁹

A central tenet of open education was long ago stated by Charles Bennett. He described the teacher's role, "The teacher's part in the educative process is to be a friendly guide and cooperator." As a result students would learn to "steer themselves." "The pupil must educate himself; the teacher is merely the co-worker, the inspirer, the guide, the example, not the dictator, the boss or the taskmaster."⁶⁵⁰

Like Rousseau, natural growth has been of concern to industrial educators. Surely the concept has been misconstrued at times. Natural growth, wrote Bonser, does

⁶⁴⁸Friese, "Social Security and Industrial Education," p. 115.

⁶⁴⁹Richards, op. cit., p. 5.

⁶⁵⁰Charles A. Bennett, "Value of the Manual Arts in General Education," Industrial Education Magazine, XXVIII (August, 1926), 33.

not imply unaided growth of an undirected sort. Certainly teachers have a responsibility to initiate activities which enhance natural growth. Therefore such strategies are necessary in addition to technical competence. Implications for teacher training are thus affected.⁶⁵¹

The types of activities are indicative of a teacher's understanding of natural growth. Activities should foster creativity by utilizing originality, experimentation, and analysis, wrote Bonser. Otherwise arrested development results with overuse of drill as a case in point.⁶⁵²

The task of the teachers is yet much more. William Hunter quoted Emerson, "The secret of education lies in respecting the pupil." Hunter thus believed that industrial arts thrives in an atmosphere of experimentation free of fear and cynicism.⁶⁵³

In an experimental atmosphere, we are not afraid intelligently to question authority; we are encouraged to try the new and to pioneer in something that hasn't been done. When you see a teacher trying nothing new, it's a pretty certain sign that the pupils aren't encouraged to either. Education to be real education must lead the pupils out. That's what industrial-arts education must do. It isn't hard to recognize the industrial-arts laboratories where the pupils are leading out.⁶⁵⁴

⁶⁵¹Bonser, Life Needs and Education, p. 247.

⁶⁵²Ibid., p. 32.

⁶⁵³William L. Hunter, "Philosophy of Industrial-Arts Education," Industrial Arts and Vocational Education, XXVI (November, 1937), 355.

⁶⁵⁴Ibid., p. 356.

In view of the foregoing, Bonser stated there is a shortage of teachers -- real teachers. There may be an oversupply of instructors, but a shortage of teachers seems to always exist. Teachers are those who truly understand growth and development by being able to enter into the life of each child.⁶⁵⁵

Opportunities for rewarding teacher-student interactions are easily realized in the informality of industrial arts. Hornbake addressed himself to the possibilities.

At the least the pupil-personnel concept has made for a new and improved relationship between teacher and pupils and between pupil and pupil; that is, the industrial arts laboratory has become a place where desirable social behavior is learned and practiced. In doing so, the laboratory has become a place par excellence, where life can be lived in the school as it is lived outside the school.⁶⁵⁶

Unfortunately, it can be misconstrued that such empathic teachers can afford to be "scornful of scholarship," wrote Bonser.⁶⁵⁷ He warned that it is fatal for teachers who consider themselves progressive to ignore and flout the scientific method. Philosophy and science are not mutually exclusive.⁶⁵⁸

⁶⁵⁵Bonser, Life Needs and Education, p. 50.

⁶⁵⁶Hornbake, Professional Progress in Industrial Arts Education, p. 12.

⁶⁵⁷Bonser, Life Needs and Education, p. 250.

⁶⁵⁸Ibid., pp. 27-28.

Summary

It thus becomes clear that industrial arts has been a leader of progressivism within American education. Yet it has been beset with dangers, such as those identified by Bonser.

Degrees of skill and efficiency commensurate with vocational standards have not been attained; and thought content has not been sufficiently rich to assure that educational value demanded of a school study. The movement to organize, enrich, and more scrupulously to evaluate on the basis of educational worths the field of subject matter in the industrial arts is the movement characterizing the attitude of the school as an institution to-day.

To meet these common needs--those of the vocations and those of the child--in the most satisfactory way possible means practically a complete revision in our evaluation and selection of subject matter for the whole school curriculum. It means working over the materials and methods of education and training on the basis of the most vital life needs of the present time.⁶⁵⁹

Indeed industrial arts is at a crossroads. Hornbake was well aware of the problem.

Industrial arts may well become a therapeutic digression from the ongoing educational enterprise, an activity located in a shop where pupils can go to make gadgets, twist Western Union splices, and learn to replace washers in faucets. This would indeed be a sad ending for a subject area that has its origins in one of the wonders of the world, American industry, and which has "learning by doing" as its professional birthright.⁶⁶⁰

Yet the demise of industrial arts need not occur. There has been in recent years considerable curricular

⁶⁵⁹Ibid., pp. 70-71.

⁶⁶⁰Hornbake, "Time for Progress," p. 13.

experimentation of significance. Finally industrial arts is salvaging itself from establishing content in an era prior to the full impact of technology. In other words, industrial arts has purported, as suggested by Hornbake, to represent technology while continuing to offer obsolete practices and concepts.⁶⁶¹

Like any curricular area, industrial arts needs to continually reassess its mission. Many questions thus arise including determination of content and methodology and relationships with other areas, such as vocational education. In other words, how shall industrial arts improve itself?

There are those who believe that industrial arts must become more reflective of the technology now common to industry. Others believe industrial arts should concentrate on the lower grades via career education. Granted there may be merit to both points of view, but it would seem important to acknowledge that the attitudes which industrial arts teachers have toward learning and knowledge directly influence classroom activity. Accordingly Chapters II and III have served to gather documentation to suggest that a correlation exists between open education beliefs and those of industrial arts.

The future of industrial arts would seem to be enhanced by the success of open education. Currently open education is receiving a great deal of attention in both

⁶⁶¹Hornbake, "Industrial Arts for All," p. 9.

professional and popular literature. Inasmuch as industrial arts appears to have what in effect is an open education heritage, as suggested by this study, it follows that industrial arts has a vested interest in the welfare of open education.

However, even with a future oriented curriculum industrial arts faces another question before realizing its potential. Do industrial arts leaders today continue to possess attitudes toward learning and education similar to their predecessors? Specifically, do industrial arts leaders today hold open education beliefs? The remainder of this study will attempt to explore this issue.

CHAPTER IV

DESIGN OF THE STUDY

Introduction

It becomes important for the purposes of this study to investigate whether industrial arts leaders continue to hold beliefs now identified as open education. The administration of a questionnaire was deemed an efficient device for gathering such information. Questionnaire results were then to be examined to determine whether the population in question accepts open education beliefs. Acceptance was to be examined in toto and in clusters via factor analysis data. Furthermore data was to be examined for demographic variances. Thus began the task of selecting an appropriate population and instrument.

Population Description

The American Council on Industrial Arts Teacher Education (ACIATE) was selected as the organization to participate in this study for several reasons. Membership in the ACIATE by industrial arts professors throughout the United States is assumed as being an indication of each member's professional concern for the welfare and promotion of industrial arts. The ACIATE membership roles also contain a leadership cadre which parallels those early industrial arts

leaders identified in Chapter III. Therefore the ACIATE today serves as a group of industrial arts teacher educators whose attitudes toward education can be compared with beliefs held by earlier industrial arts leaders. Also from an operational point of view, the ACIATE membership directory provides a convenient vehicle for selecting and corresponding with participants. In regards to size, the 1970-1971 ACIATE membership directory lists 1,096 members. Presumably educational attitudes held by teacher educators within the ACIATE have a strong impact on the attitudes held by all industrial arts teachers throughout the United States.

Sampling Procedure

Inasmuch as polling an entire organization as large as the ACIATE is often unreliable from the standpoint of the difficulty of contacting non-respondents and also expensive, a random sampling strategy was decided upon. Various statisticians advised that a sample size of 300 would adequately reflect the entire ACIATE membership. Consequently, a computer was programmed to generate 300 random numbers without replacement between numbers 1 through 1,096. Resultant numbers thus generated were assigned to corresponding names which appeared in alphabetical order in the ACIATE directory whereby participants were selected.

Instrument Description

Concurrently a search was underway to select or design an instrument which purportedly measures the participants' attitudes toward open education. A questionnaire for such a purpose was found in Phi Delta Kappan magazine.⁶⁶² The questionnaire had been prepared by Dr. Roland Barth as a part of his doctoral dissertation at Harvard University after he and a colleague, Dr. Charles Rathbone, spent an extensive visit to informal classrooms throughout Great Britain. Dr. Barth is presently the principal at Angier School in Newton, Massachusetts, while Dr. Rathbone is the director at the New City School in St. Louis. Dr. Rathbone previously taught in an open classroom in Oberlin, Ohio, after teaching at Oberlin College.

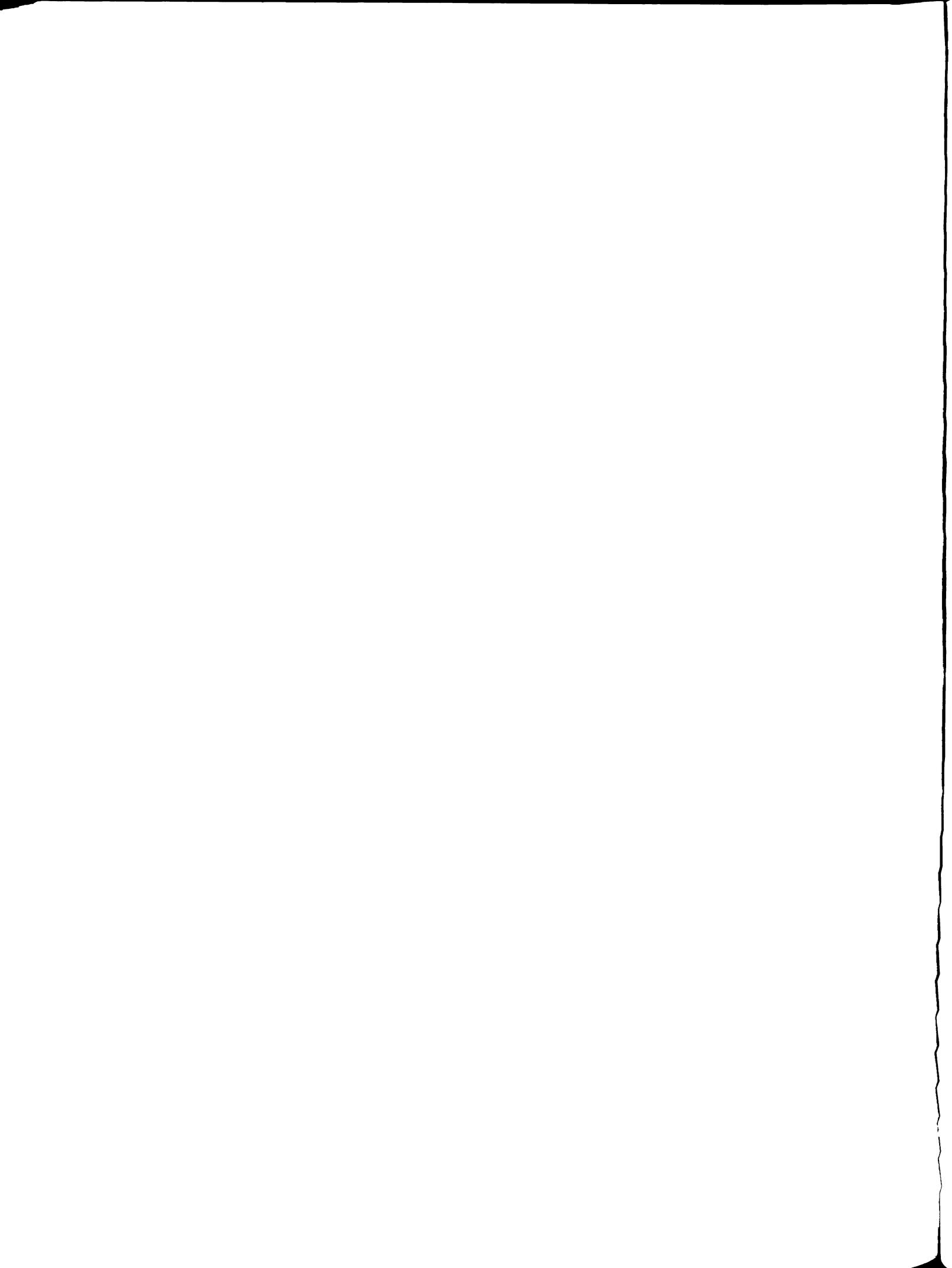
Subsequent telephone conversations and correspondence with Drs. Barth and Rathbone provided both the permission to use the Barth scale for this study and the encouragement to continue the study.⁶⁶³ At Dr. Barth's request permission to use the Barth scale was secured from Phi Delta Kappan.⁶⁶⁴

There are yet few instruments suitable for measuring attitudes pertinent to open education. However, it is noteworthy that John Holt contends the Barth scale is the

⁶⁶²Barth, op. cit., pp. 98-99.

⁶⁶³See Appendix A.

⁶⁶⁴See Appendix B.



most accurate, comprehensive, and concise statement on open education.⁶⁶⁵

Validity

Dr. Barth has not subjected his scale to any scientific statistical treatment. Fortunately, however, Anthony Coletta at the University of Connecticut has undertaken as his research for his dissertation the comprehensive examination of the validity of the Barth scale.

Coletta began by asking a supervisor at a large Connecticut school system to select sixty teachers for the examination of the Barth scale's validity. The open educators selected included fifteen who were rated high by the supervisor and fifteen who were rated low. Likewise the traditional educators selected included fifteen who were rated high and fifteen rated low.

Two personality tests, including the Edwards Personal Preference Schedule and the Thurstone Temperament Schedule, were administered to the sixty participants. A biographical statement was also prepared. In addition all participants responded to the Barth scale.

Multivariate analyses of variance were employed.⁶⁶⁶ After which Coletta summarized the results of his testing as follows:

⁶⁶⁵Rathbone, *op. cit.*, p. 3.

⁶⁶⁶Anthony J. Coletta and Robert K. Gable, "An Examination of the Content and Construct Validity of the Barth Scale: Assumptions of Open Education," Preliminary research results for doctoral dissertation, University of Connecticut, 1972. (Mimeographed.)

Results: The results of the study indicated that no significant differences existed between open and traditional teachers in selected personality characteristics, as measured by the EPPS and the TTS; no significant personality differences were found between the following groups: (1) high rated, open versus high rated, traditional; (2) high rated, open versus low rated, open; and (3) high rated, traditional versus low rated traditional.

Differences were found between open and traditional teachers on the Barth Scale. The MANOVA F tests indicated that open teachers differed significantly from traditional teachers on four of the seven dimensions measured by the Barth Scale. Moreover, high rated, open versus low rated, open teachers differed significantly on two Barth Scale dimensions ($p < .05$), as did high rated open versus high rated traditional teachers. High rated, traditional versus low rated, traditional teachers failed to show a significant difference.⁶⁶⁷

Accordingly Coletta concluded,

. . . the Barth Scale validity study fulfills a need for instrumentation; the Scale appears to discriminate between open and traditional teachers and may be of value in assisting school systems in the selection of teachers for open classrooms.⁶⁶⁸

Reliability

Coletta does not report the reliability of the Barth scale during his study. However, the Barth scale was examined for its reliability when administered to the ACIATE sample and is reported in Chapter V.

⁶⁶⁷Anthony J. Coletta, "Personality Characteristics and Assumptions Held by Open and Traditional Teachers of the Poor," Preliminary research results for doctoral dissertation, University of Connecticut, 1972, pp. 1-2. (Mimeographed.)

⁶⁶⁸Ibid., p. 2.

Factor Analysis

Coletta reports he has subjected the Barth scale to factor analysis. Construct validity testing for interrelationships was achieved by administering the Barth scale to 191 elementary teachers including seventy-eight open and 113 traditional teachers from throughout the Atlantic states. Consequently, Coletta utilized a principal components analysis and an obliquimax transformation to achieve a 28x28 matrix. (Items 10 and 22 on the original Barth scale were combined.)

As a result Coletta found the Barth scale contains eight factors but chose to classify only seven factors inasmuch as one factor was comprised of but one item. The seven factors are reported and analyzed in Chapter V. It should be noted that the Barth scale items were reordered between the Phi Delta Kappan article,⁶⁶⁹ Coletta's testing of the instrument, and its administration to the ACIATE. This was required for printing convenience. However, it should be noted that items on Coletta's instrument were juxtaposed with the ACIATE questionnaire to assure identical items comprise the seven factors.

Data Collection

Formating the Barth scale to an optical scanning answer form was accomplished with an IBM compositor. A letter of explanation was prepared for the opposite side of

⁶⁶⁹Barth, op. cit., pp. 98-99.

the answer form. The completed questionnaire was then printed by offset lithography.⁶⁷⁰

Each participant was mailed a questionnaire and a stamped self-addressed return envelope which was coded to help locate non-respondents. Within three weeks 66% of the participants had returned completed questionnaires. A follow-up letter for non-respondents was prepared which realized a total response of 83.6%.⁶⁷¹

Data Processing

Incoming questionnaires were dated and assigned a code number to aid in the identification of non-respondents and also to examine regional differences. An optical scanner was then used to transfer the data onto a magnetic tape. The magnetic tape in turn was used to punch computer cards. Data on the explanatory side of the questionnaire was keypunched on a separate deck of cards. A program was later written by which data from the two decks were combined onto a third deck.

Data was thus analyzed by totaling the sum of each participant's responses to produce a value indicative of the ACIATE's acceptance of open education. An item analysis was also employed to produce means and standard deviations.

A subsequent investigation was initiated for correlations between age and open education acceptance.

⁶⁷⁰See Appendix C.

⁶⁷¹See Appendix D.

Likewise a correlation between years of teaching and acceptance of education concepts was performed. An estimate of reliability was also performed as previously mentioned.

Univariant analysis of variance was also performed to determine whether variance of open education acceptance by geographical regions existed within the ACIATE membership.

Regional differences were also examined by the use of computer graphics. Four national maps showing regional variances were displayed graphically. The maps include plan views by the choropleth and isarithm (contour) methods, utilizing the Michigan State University Symap program. Similarly block diagrams (three view perspective) displayed the choropleth and isarithm by utilization of the Michigan State University Symvu program. Display and analysis of the data follow in Chapter V.

CHAPTER V
ANALYSIS OF THE DATA

Testing the Hypotheses

The hypotheses, as stated in Chapter I, were that industrial arts has an open education heritage and that industrial arts teacher educators continue to hold beliefs about learning and knowledge which are in agreement with open education concepts. Information revealed in Chapters II and III strongly suggests that the first hypothesis is true; namely, industrial arts has an open education heritage. Repeatedly it was found that many industrial arts authors over the years have expressed views which are virtually identical to those now expressed by open educators.

To test the remaining hypothesis the Barth scale was administered to a random sample drawn on the membership of the American Council on Industrial Arts Teacher Education, identified in Chapter IV. Following data collection, a design was created to determine indices to the acceptance of open education of those surveyed. By assignment of values of one for strongly agree, two for agree, three for no strong feeling, four for disagree, and five for strongly disagree to each of the twenty-nine Likert type Barth assumptions, a measure of central tendency was computed.

Therefore an individual who strongly disagreed with each assumption will have a score of 145. Table 1 provides an explanation of the numerical assignment procedure.

Table 1.--Numerical Assignment of Responses to Barth Scale

Response	Value	x 29	Total Score
Strongly Agree	1		29
Agree	2		58
No Strong Feeling	3		87
Disagree	4		116
Strongly Disagree	5		145

Analysis of the data discloses a mean of 63.1 for the 251 respondents, which falls very close to the specific agree value of fifty-eight as shown on Table 1. Accordingly with the mean of 63.1 and a standard error of .68, the mean of the entire ACIATE membership to the Barth scale can be predicted. Thus with 95% confidence the population mean can be predicted to be no less than 61.77 nor no more than 64.43.⁶⁷² Inasmuch as 300 members of the 1,096 membership for 1970-1971 of the American Council on Industrial Arts Teacher Education were polled and 251 (83.6%) responded, one may reasonably infer that the mean is characteristic of the

⁶⁷²Paul A. Games and George R. Klare, Elementary Statistics/Data Analysis for the Behavioral Sciences (New York: McGraw-Hill Book Company, 1967), pp. 258-270.

entire organization. A comparison between the ACIATE membership and Wall's annual Industrial Teacher Education Directory appears to disclose that most of the industrial arts teacher educators in Wall's directory are members of the ACIATE.⁶⁷³ Exact comparison is difficult due to the composition of Wall's directory. Nevertheless it seems reasonable to infer that the results of this study are representative of all industrial arts teacher educators throughout the United States.

An examination of the aggregate scores of all respondents is herewith reported in Figure 1. Note that one individual strongly agreed with all open education assumptions on the Barth scale. This particular individual is fifty-three years old, has taught for seventeen years, and is an industrial arts professor from a middle Atlantic state. He opted not to identify any particular contemporary education writer with whom he is in greatest agreement but rather stated "open education writers." When asked to identify the contemporary industrial arts leader with whom he is in greatest agreement he identified Donald Maley. Dr. Maley was a student of Lee Hornbake, who was identified in Chapter III as advocating open education concepts.

The other extreme is provided by a respondent whose score was 100, which nearly classifies him as disagreeing

⁶⁷³G. S. Wall (Compiler), Industrial Teacher Education Directory (Washington, D.C.: American Council on Industrial Arts Teacher Education and National Association of Industrial and Technical Teacher Educators, 1971).

with all open education assumptions on the Barth scale. This respondent is forty-seven years old, has taught for eleven years, and is a professor of industrial arts in a midwestern state. He surprisingly identified John Dewey as the contemporary education writer with whom he is in greatest agreement. When asked to identify the contemporary leader with whom he is in agreement, he identified H. H. London, who was a student of Robert Selvidge. Professor Selvidge was identified in Chapter III as making numerous statements in opposition to open education concepts.

Figure 1 represents the acceptance the respondents from the ACIATE gave to the Barth scale. Results strongly suggest industrial arts professors in the main favor open education concepts.

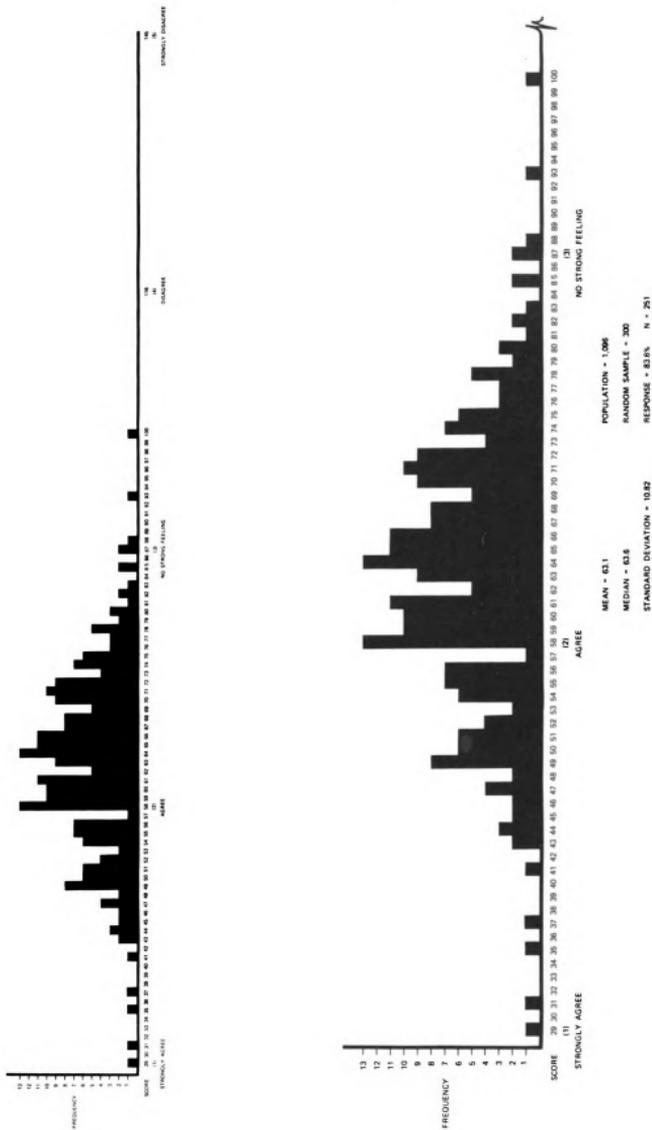
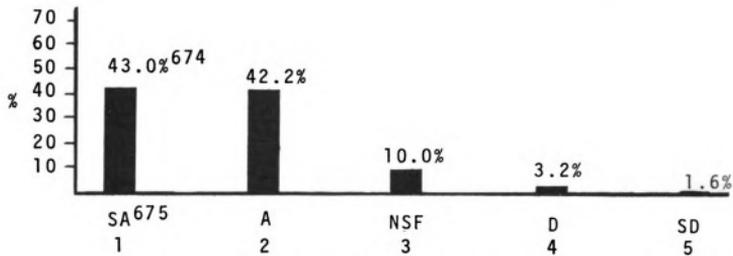


Figure 1.--ACIATE Aggregate Responses to Barth Scale

It may be helpful to display responses to each of the twenty-nine assumptions on the Barth Scale. The following item analysis includes each assumption statement responses represented on a bar graph, the standard deviation, and the mean. In numerous instances comments are directed toward each assumption indicating possible ramifications for industrial arts.

Assumption 1: Children are innately curious and will explore their environment without adult intervention.



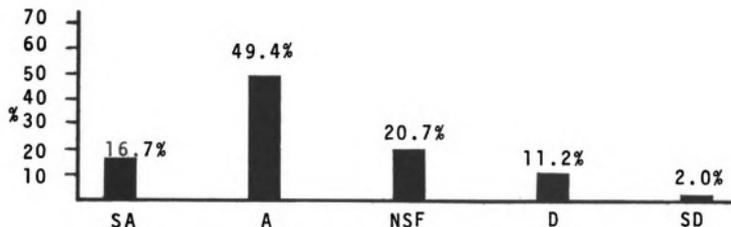
N = 251 Mean = 1.781 Standard Deviation = .8694

Figure 2.--ACIATE Response to Barth Scale Assumption 1

⁶⁷⁴Percentages may not total 100% due to rounding error.

⁶⁷⁵SA Strongly Agree
 A Agree
 NSF No Strong Feeling
 D Disagree
 SD Strongly Disagree

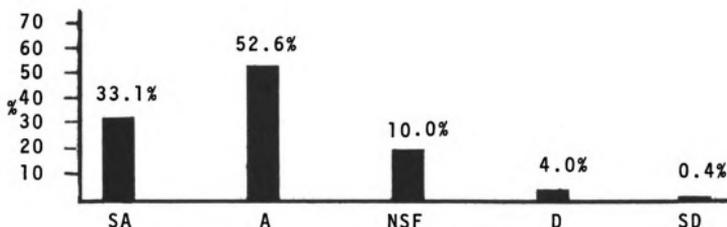
Assumption 2: Exploratory behavior is self-perpetuating.



N = 251 Mean = 2.323 Standard Deviation = .9484

Figure 3.--ACIATE Response to Barth Scale Assumption 2

Assumption 3: The child will display natural exploratory behavior if he is not threatened.



N = 251 Mean = 1.861 Standard Deviation = .7801

Figure 4.--ACIATE Response to Barth Scale Assumption 3

Figures 2-4 appear to indicate industrial arts professors believe children are responsible to initiate and sustain learning. Undoubtedly teachers are obliged to guide toward general objectives and intervene when safety is an issue.

Assumption 4: Confidence in self is highly related to capacity for learning and for making important choices affecting one's learning.

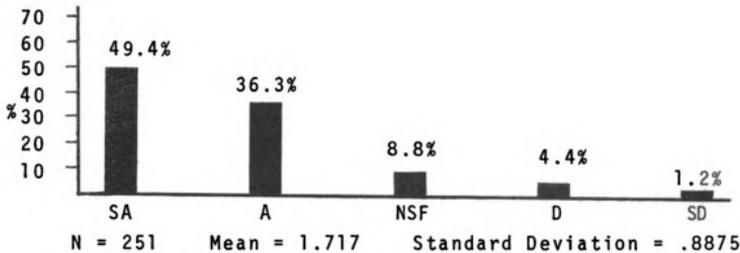


Figure 5.--ACIATE Response to Barth Scale Assumption 4

Figure 5 supports a belief that industrial arts offers many children success which is perhaps unobtainable in the academic disciplines. Industrial arts may not merely be easier but rather a better facilitator of learning.

Assumption 5: Active exploration in a rich environment, offering a wide array of manipulative materials, will facilitate children's learning.

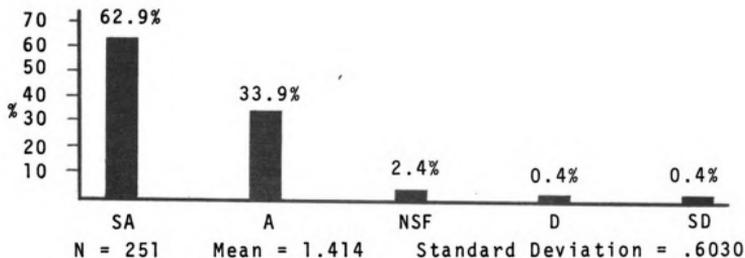


Figure 6.--ACIATE Response to Barth Scale Assumption 5

Such a reaction in Figure 6 is hardly unexpected in industrial arts inasmuch as it should be a rich environment offering a wide array of manipulative materials.

Assumption 6: Play is not distinguished from work as the predominant mode of learning in early childhood.

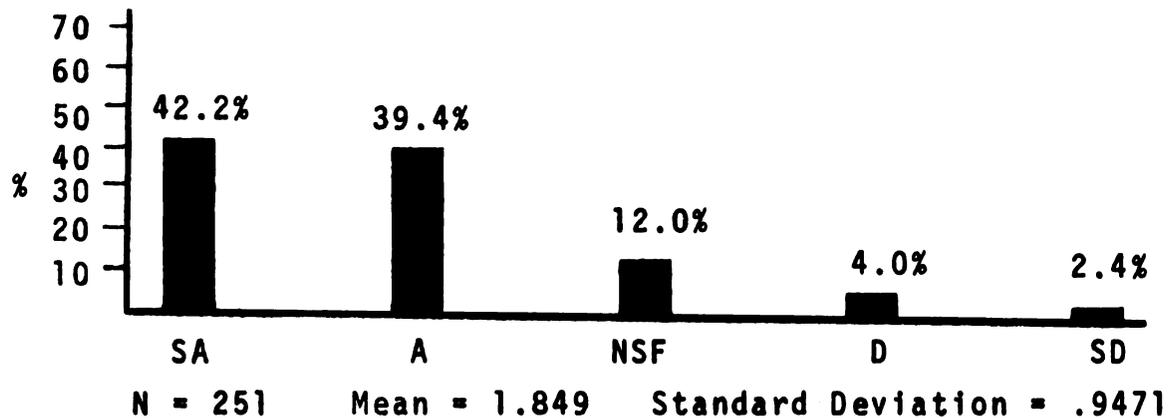


Figure 7.--ACIATE Response to Barth Scale Assumption 6

Assumption 7: Children have both the competence and the right to make significant decisions concerning their own learning.

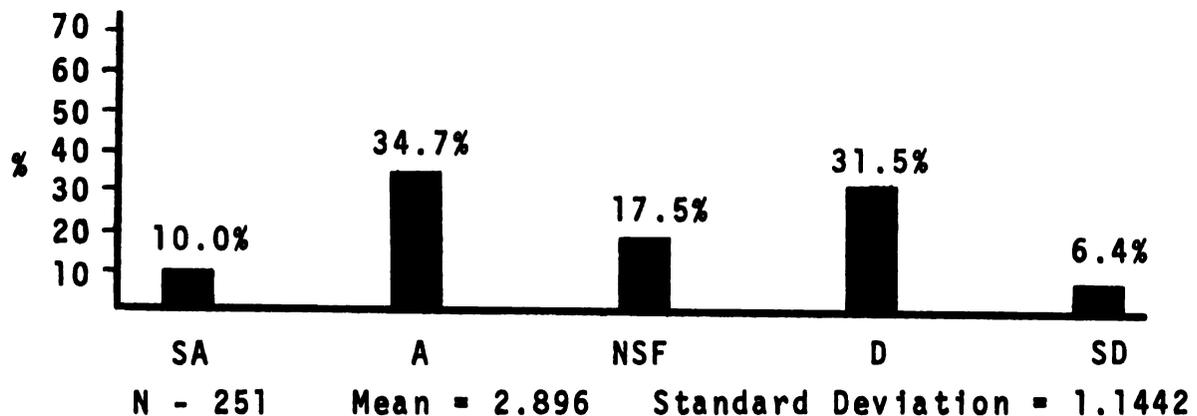
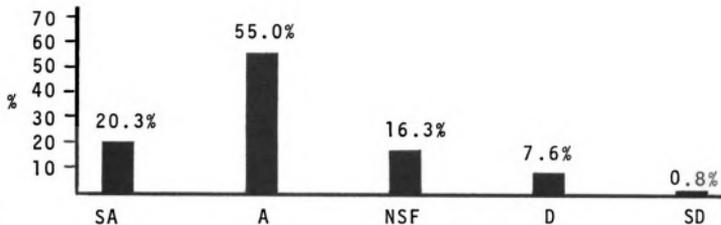


Figure 8.--ACIATE Response to Barth Scale Assumption 7

The diversity of opinion revealed in Figure 8 is probably caused by the uncertainty over the extent implied by the term "significant" decisions. It should be noted that a great deal of industrial arts literature advocates the desirability of student project selection to promote creativity among other desirable traits.

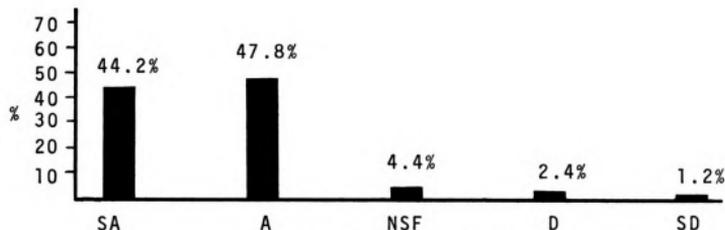
Assumption 8: Children will be likely to learn if they are given considerable choice in the selection of the materials they wish to work with and in the choice of questions they wish to pursue with respect to those materials.



N = 251 Mean = 2.135 Standard Deviation = .8518

Figure 9.--ACIATE Response to Barth Scale Assumption 8

Assumption 9: Given the opportunity, children will choose to engage in activities which will be of high interest to them.



N = 251 Mean = 1.685 Standard Deviation = .7698

Figure 10.--ACIATE Response to Barth Scale Assumption 9

Figures 9-10 appear to support the belief that industrial arts offers a diverse choice of materials, problems, and enjoyable activities.

Assumption 10: If a child is involved in and is having fun with an activity, learning is taking place.

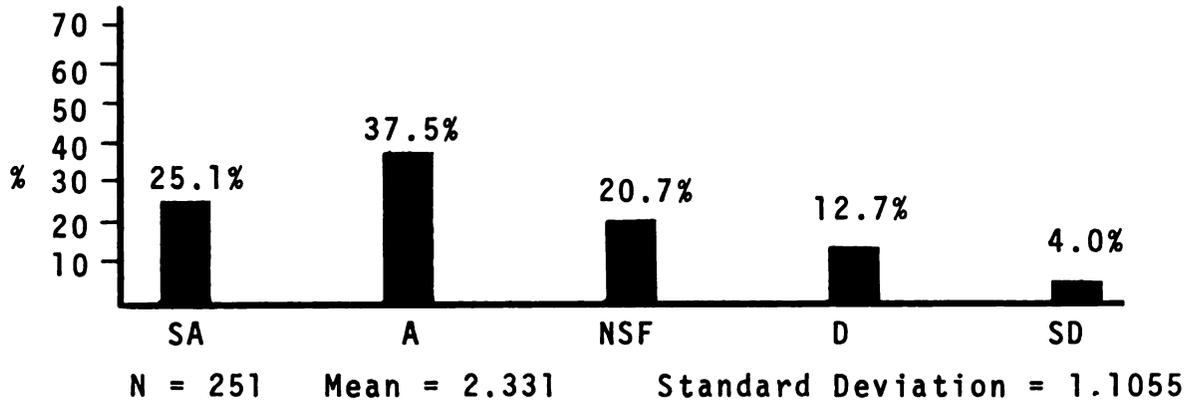


Figure 11.--ACIATE Response to Barth Scale Assumption 10

Perhaps concern is expressed in Figure 11 due to the uncertainty over types of activities. A misinterpretation could lead to activities which are miseducative or entirely recreational.

Assumption 11: When two or more children are interested in exploring the same problem or choose the same materials, they will often choose to collaborate in some way.

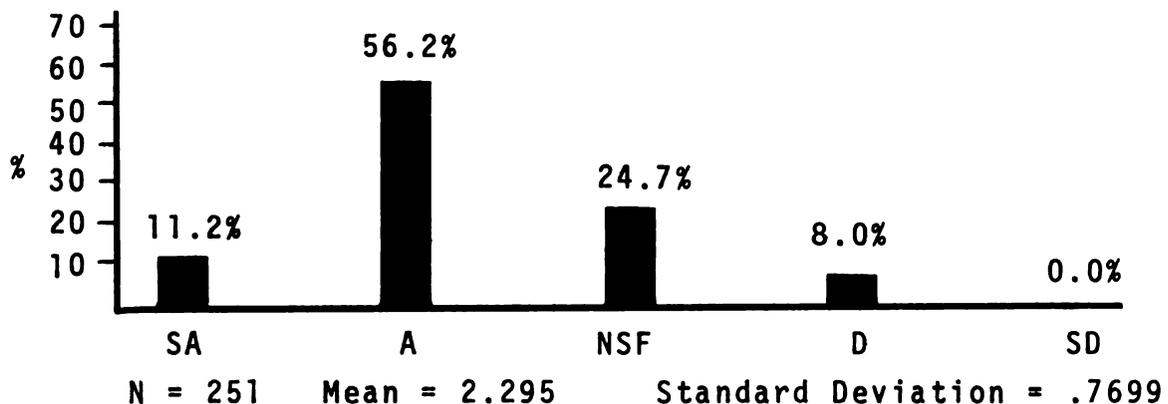


Figure 12.--ACIATE Response to Barth Scale Assumption 11

Assumption 12: When a child learns something which is important to him, he will wish to share it with others.

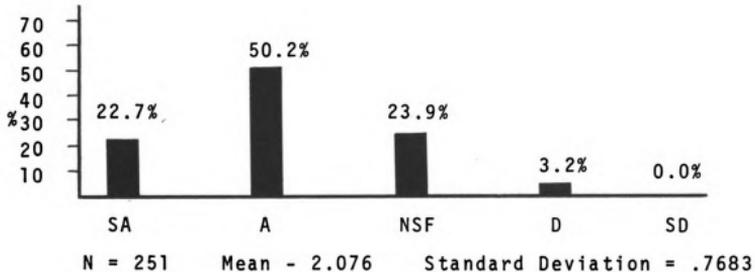


Figure 13.--ACIATE Response to Barth Scale Assumption 12

Figures 12-13 tend to support the desirable social relationships cited as a goal by Wilber.⁶⁷⁶

Assumption 13: Concept formation proceeds fairly slowly.

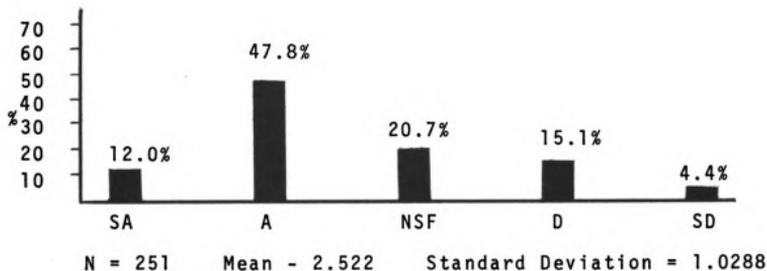


Figure 14.--ACIATE Response to Barth Scale Assumption 13

⁶⁷⁶Wilber, *op. cit.*, p. 83.

Assumption 14: Children learn and develop intellectually not only at their own rate, but in their own style.

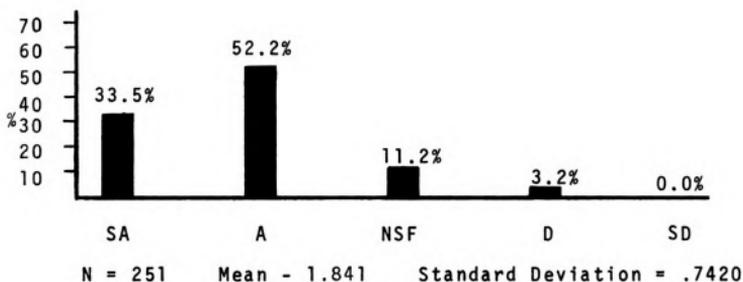


Figure 15.--ACIATE Response to Barth Scale Assumption 14

Assumption 15: Children pass through similar stages of intellectual development, each in his own way and at his own rate and in his own time.

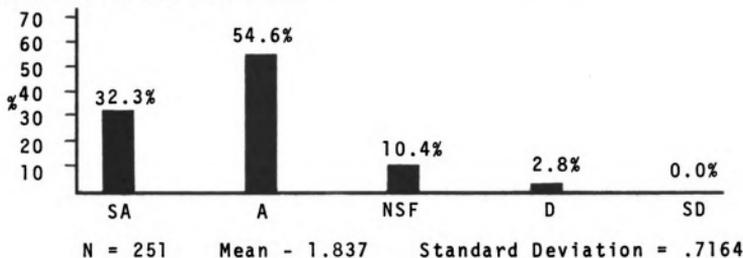


Figure 16.--ACIATE Response to Barth Scale Assumption 15

The uniqueness of industrial arts apparently is interpreted by industrial arts teacher educators in Figures 14-16 as being supportive of a variety of methods and activities to achieve educational goals.

Assumption 16: Intellectual growth and development take place through a sequence of concrete experiences followed by abstraction.

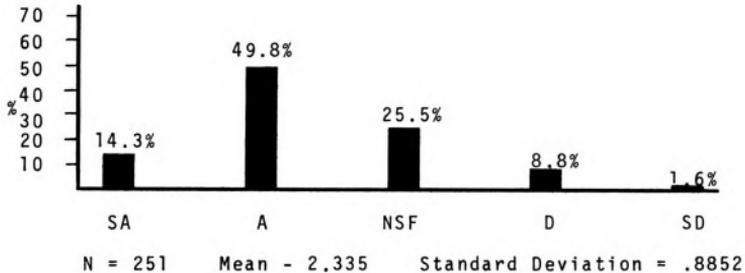


Figure 17.--ACIATE Response to Barth Scale Assumption 16

Assumption 17: Verbal abstraction should follow direct experience with objectives and ideas, not preceding them or substituting for them.

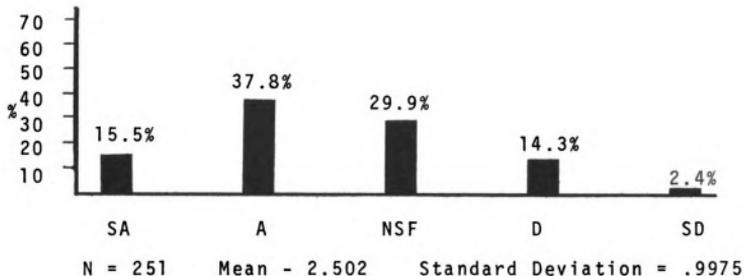
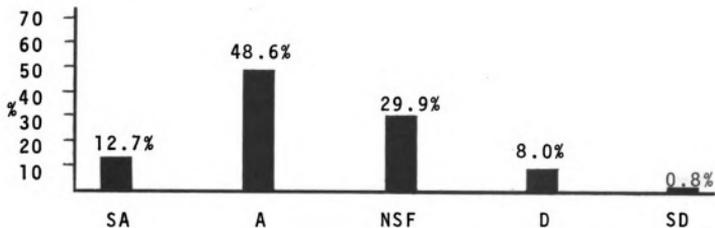


Figure 18.--ACIATE Response to Barth Scale Assumption 17

Assumption 18: The preferred source of verification for a child's solution to a problem comes through the materials he is working with.



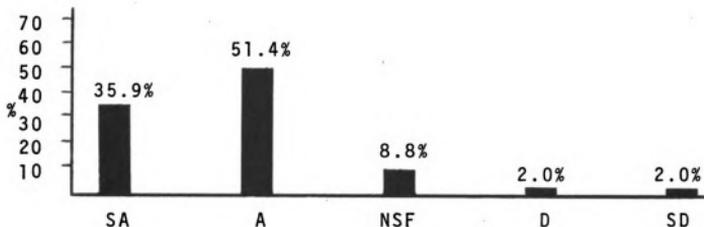
N = 251 Mean = 2.355 Standard Deviation = .8329

Figure 19.--ACIATE Response to Barth Scale Assumption 18

Figures 17-19 provide results which aren't unexpected.

A founder of industrial arts, John Runkle, when President of M.I.T., initiated manual training to provide engineering students concrete experiences preceding verbal abstractions.⁶⁷⁷

Assumption 19: Errors are necessarily a part of the learning process; they are to be expected and even desired, for they contain information essential for further learning.



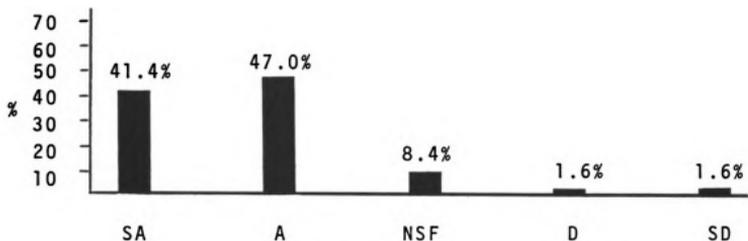
N = 251 Mean = 1.829 Standard Deviation = .8237

Figure 20.--ACIATE Response to Barth Scale Assumption 19

⁶⁷⁷Cremin, *op. cit.*, p. 25.

The results of Figure 20 are not unexpected. Industrial arts activities foster immediate feedback of successes and failures without teacher intervention or interpretation.

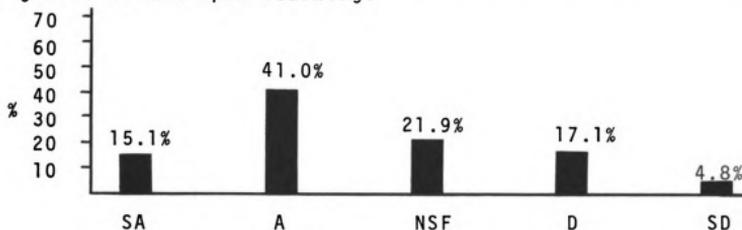
Assumption 20: Those qualities of a person's learning which can be carefully measured are not necessarily the most important.



N = 251 Mean = 1.749 Standard Deviation = .8030

Figure 21.--ACIATE Response to Barth Scale Assumption 20

Assumption 21: Objective measures of performance may have a negative effect upon learning.



N = 251 Mean = 2.554 Standard Deviation = 1.0882

Figure 22.--ACIATE Response to Barth Scale Assumption 21

Assumption 22: Learning is best assessed intuitively, by direct observation.

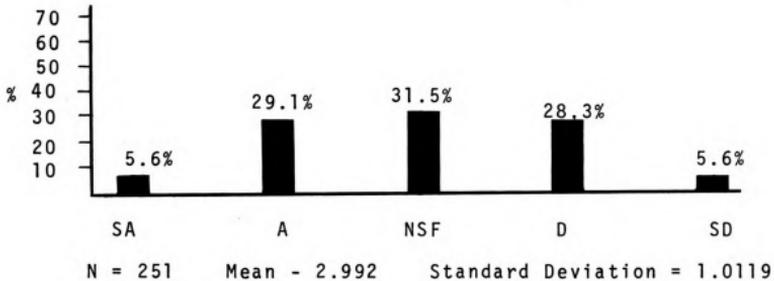


Figure 23.--ACIATE Response to Barth Scale Assumption 22

Assumption 23: The best way of evaluating the effect of the school experience on the child is to observe him over a long period of time.

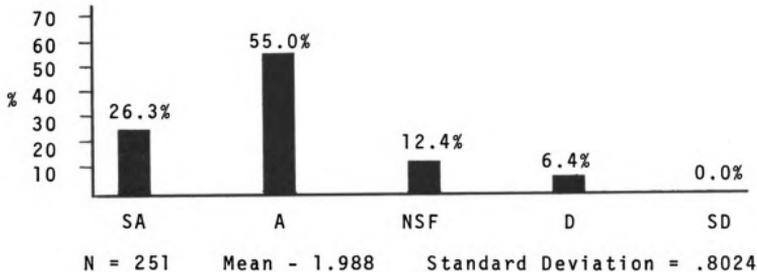
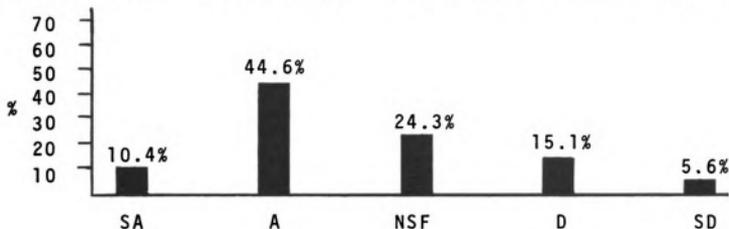


Figure 24.--ACIATE Response to Barth Scale Assumption 23

Figures 21-24 indicate a mixture of attitudes toward evaluation. Apparently industrial arts professors sense a dilemma between over reliance on objective testing and intuitive observation.

Assumption 24: The best measure of a child's work is his work.

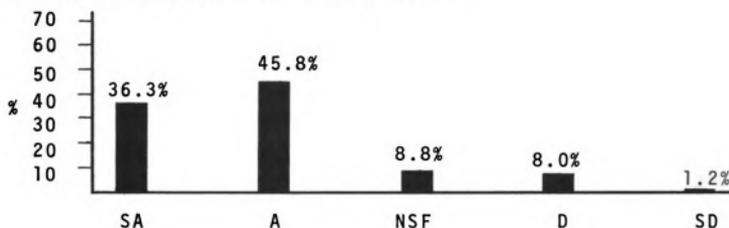


N = 251 Mean = 2.610 Standard Deviation = 1.0426

Figure 25.--ACIATE Response to Barth Scale Assumption 24

Due to the nature of the subject, one might prematurely assume industrial arts professors tend to consider one's work as the best measurement. Figure 25 suggests that other less tangible criteria are also considered important.

Assumption 26:⁶⁷⁸ Knowledge is a function of one's personal integration of experience and therefore does not fall into neatly separated categories of "disciplines."



N = 251 Mean = 1.920 Standard Deviation = .9347

Figure 26.--ACIATE Response to Barth Scale Assumption 26

There is evidence in Figure 26 that industrial arts may be viewed as an integrator in the curriculum.

⁶⁷⁸Assumptions 25, 26, 27, and 28 were reordered for printing convenience when preparing the ACIATE questionnaire. These assumptions were later correctly ordered for factor analysis comparisons with Coletta's findings.

Assumption 28: Little or no knowledge exists which it is essential for everyone to acquire.

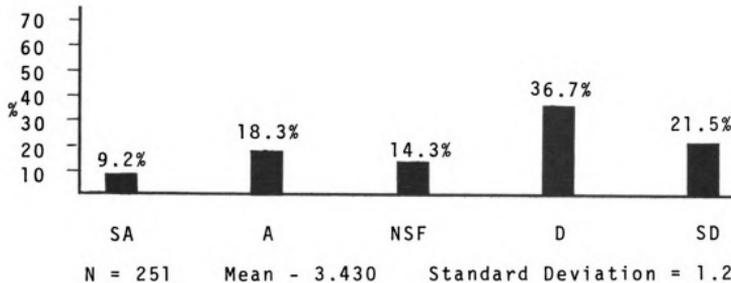


Figure 27.--ACIATE Response to Barth Scale Assumption 28

The high mean and standard deviation in Figure 27 suggest both a rejection and diversity of opinion. Perhaps respondents feel everyone should have a broad general education or at least have survival knowledge for a technological society.

Assumption 25: The quality of being is more important than the quality of knowing; knowledge is a means of education, not its end. The final test of an education is what a man is, not what he knows.

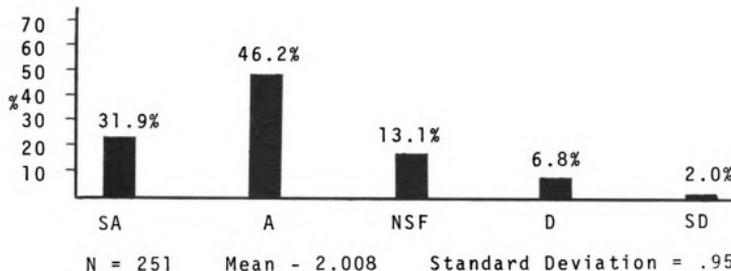


Figure 28 --ACIATE Response to Barth Scale Assumption 25

Assumption 27: The structure of knowledge is personal and idiosyncratic; it is a function of the synthesis of each individual's experience with the world.

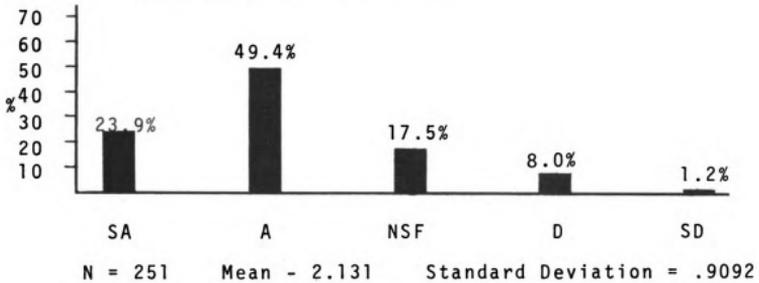


Figure 29.--ACIATE Response to Barth Scale Assumption 27

Assumption 29: It is possible, even likely, that an individual may learn and possess knowledge of a phenomenon and yet be unable to display it publicly. Knowledge resides with the knower, not in its public expression.

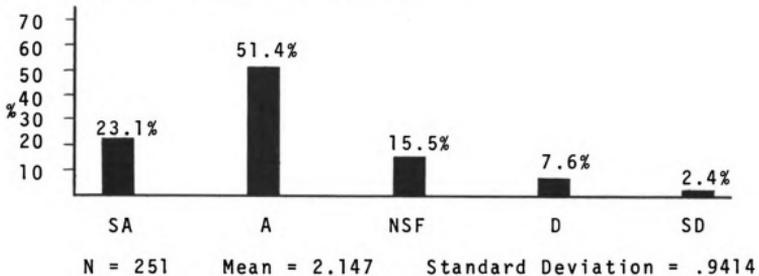


Figure 30.--ACIATE Response to Barth Scale Assumption 29

Wilber's eight goals for industrial arts obliquely suggest agreement with the assumptions reported in Figures 28-30.⁶⁷⁹

⁶⁷⁹Wilber. *op. cit.*, pp. 47-88.

Reliability

Results of the data were subjected to a Hoyt estimate for reliability.⁶⁸⁰ The procedure was an adaptation of the split-halves routine in which all possible combinations were compared. Results disclosed a reasonably high reliability value of .8227. Therefore a decision was made not to subject the data to factor analysis. The standard error was found to be a reasonably low 4.4963.

A subsequent computer search for reassignment of values to maximize reliability disclosed that the Hoyt estimate of reliability could be raised to .8515. The standard error would thus be transformed to 5.1222. Assumptions 5, 16, 17, 20, 26, 27, and 29 would appear to become more reliable measures if values were reassigned. In light of limited benefit to the total instrument and computation difficulties, this researcher opted to retain the original values.

Factor Analysis

As discussed in Chapter IV, Coletta subjected the Barth scale to factor analysis. Herewith on Table 2 are the results when the ACIATE sample data means of means were ranked according to the factors determined by Coletta.

⁶⁸⁰William A. Mehrens and Robert L. Ebel (eds.), Principles of Educational and Psychological Measurement (Chicago: Rand McNally & Company, 1967), pp. 108-115.

Table 2.--Barth Scale Factors Ranked by Mean of Means

Factor Number by Coletta	Factor Label by Coletta	Identity of Items via Figure Numbers	Mean of Means ⁶⁸¹	Mean of Std. Dev.
5	Learning Facilitators	5,6,26	1.684	.8083
3	Evaluating the Child	20,28,29,21	1.929	.8717
2	Intellectual Development	29,24,16,18,15,10,21	1.962	.8200
7	Learning through Explo- ration	4,7,2,10,18,9,17	2.021	.8716
4	Learning through In- volvement	11/13,12,13,16,3,29	2.221	.8679
6	Evaluating the Child's Work	19,25,22,29,2	2.286	.9485
1	Curriculum Flexibility	27,8,9	2.820	1.0860

⁶⁸¹Mean of Means: 1 = Strongly Agree, 2 = Agree, 3 = No Strong Feeling,
4 = Disagree, 5 = Strongly Disagree

Table 2 indicates that participants in this study were most favorable toward the factor which Coletta labeled "Learning Facilitators" -- so much so that their responses to this factor (1.684) fell between strongly agree and agree. Moreover the standard deviation value of .8083 is the lowest of those reported indicating a greater amount of unanimity of opinion toward this factor. It is noteworthy that this factor is comprised of items which address themselves to self concept, a rich learning environment, and opposition to discrete disciplines of knowledge. Such a result should not be too surprising in view of the many years of industrial arts literature which advocated such beliefs.

The factor of second greatest acceptance is "Evaluating the Child." Items comprising this factor address themselves to the value of errors while learning, the test of an education, its idiosyncratic nature, and the questionable value of objective evaluations. The high acceptance of this factor is perhaps explained by the informal nature of industrial arts, which prompts insight to the students' achievements.

The third most acceptable factor is labeled "Intellectual Development." Items comprising this factor include statements addressing idiosyncrasy of knowledge, evaluation via observation, rate and timing of intellectual development, value of direct experience, multiplicity of learning rates and styles, interest, and again the questionable value of objective evaluations. Undeniably industrial arts

provides a fine setting in which students can satisfy their unique interests in a fashion which is both real and adaptable.

The fourth most acceptable factor to the ACIATE was labeled by Coletta as "Learning through Exploration." Included in this factor are items dealing with impulse to learn, value of play, curiosity, interest, direct experience, and selection of materials. The title of "Learning through Exploration" alone is a most accurate descriptor of the possibilities of industrial arts.

"Learning through Involvement" is found to be the fifth most acceptable factor. Included are items concerning fun of learning, observation, collaboration, intellectual development, self-perpetuation, and idiosyncrasy of education. Involvement is sine qua non to industrial arts. Surely the industrial arts classroom is the last place to expect to find passive students.

"Evaluating the Child's Work" is found to be the sixth most acceptable factor. It should be noted that responses to this factor center near the "agree" value. Items contributing to this factor include statements about verification of solutions to problems, criteria for evaluation, negative effects of objective evaluations, meaning of an education, and curiosity. The higher standard deviation for this factor (.9485) indicates a greater difference of opinion to this factor than the preceding.

The least acceptable factor to the ACIATE participants in this study is labeled "Curriculum Flexibility." Here it

should be noted that the mean of 2.820 indicates a value approaching "no strong feeling" rather than disagreement. Supportive of such a response is the highest standard deviation (1.0860). Items included in this factor address themselves to the basic education and curricular decisions made by students. It may be that this factor represents views too radical for the ACIATE, is of no particular interest, or attends to issues to which the ACIATE was unprepared to respond.

Correlation between Open Education Acceptance and Age

It is important to discover whether there is a correlation between the respondents' ages and acceptance of open education concepts. Implementation of open education practices might be inhibited if younger respondents were found to be receptive toward open education while older respondents were less enthusiastic or vice versa.

Examination of the data discloses an age span of the respondents from twenty-four to sixty-seven with a mean of 43.6 years. Analysis of data by the Pearson Product-Moment Correlation tests disclosed no significant correlation at the .05 level between age and acceptance of open education concepts. To achieve significance at the .05 level, a correlation value of .1946 is required. Instead the data provided a correlation value of .1086, which at the less meaningful .086 level indicated older respondents were less receptive to open education.

Correlation between Open Education Acceptance
and Years of Teaching

Respondents were found to have taught from one to forty-six years with a mean of 18.1 years. Analysis of the data by the Pearson Product-Moment disclosed at the .05 level no significance between acceptance of open education and years of teaching.

Analysis of Variance by Geographic Regions

The data was subjected to an analysis of variance to determine whether respondents in eight geographic regions throughout the United States differed significantly in their acceptance of open education. Similarities of climate, physical features, economy, people, traditions, and history identified by World Book Encyclopedia served as criteria.⁶⁸² Means are reported in Table 3.

⁶⁸²"United States," World Book Encyclopedia, XX (1972) 46.

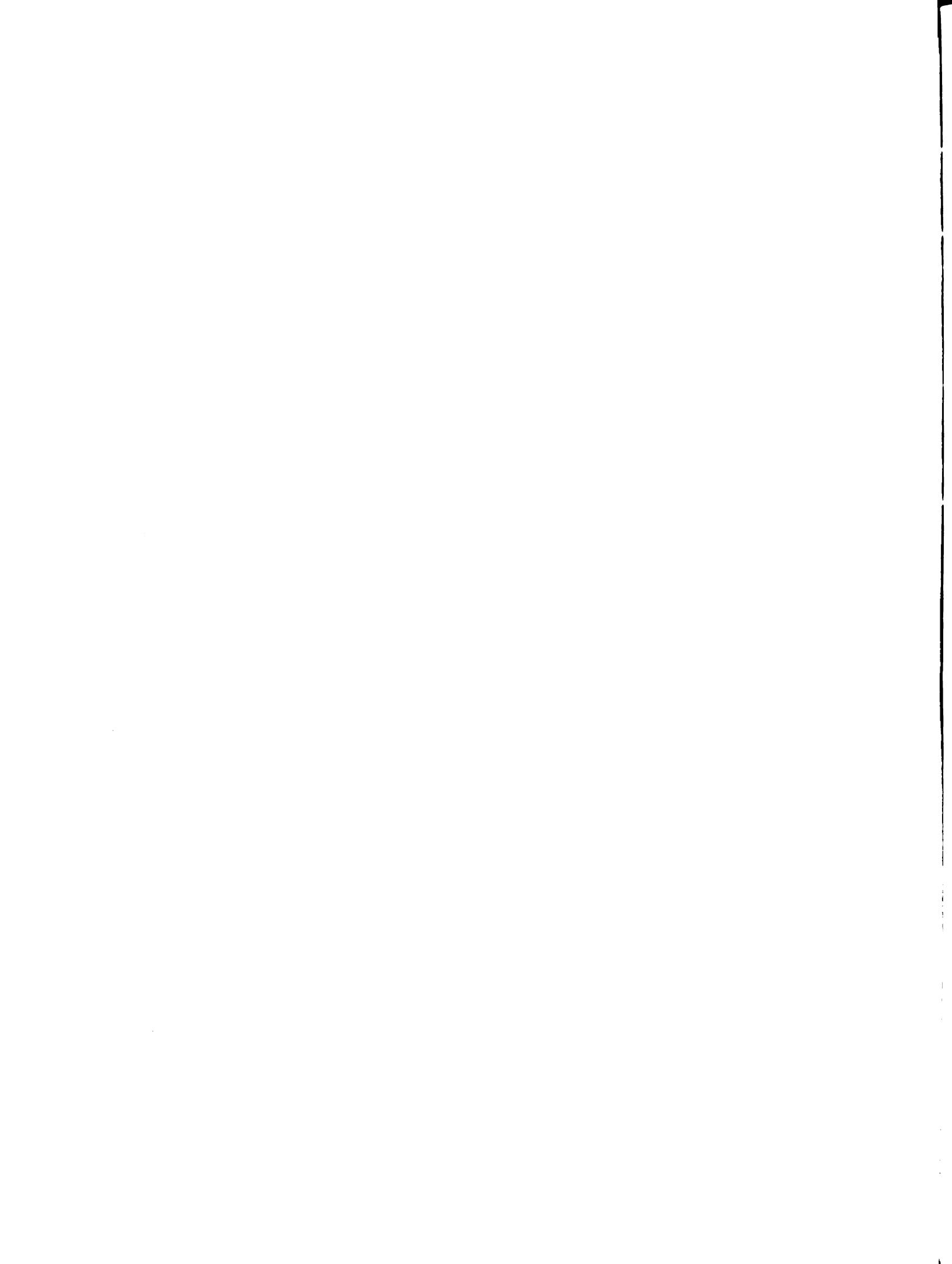


Table 3.--Means of Acceptance of Open Education Concepts by Geographic Regions

Geographic Region	Mean (National Mean = 63.1)	N
Middle Atlantic States	61.3	30
Midwestern States	63.9	109
New England States	64.2	4
Pacific Coast States	61.2	21
Rocky Mountain States	66.6	19
Southern States	59.3	38
Southwestern States	66.0	28
Hawaii	57.5	2

A univariate analysis of variance provided an F value of 1.61, which is not significant at the .05 level. Exact significance was found to equal .1314. The data thus indicates there is no significant regional variation from the national mean when the ACIATE sample responded to the Barth scale. Table 4 supports such a conclusion.

Table 4.--Analysis of Variance for Difference by Geographic Regions for Open Education Acceptance

Sources of Variation	S.S.	d.f.	M.S.	F	Significance less than
Regions	1313.5577	7	187.6511	1.6161	.1314
Error	28215.3132	243	116.1124	--	--

Subsequently graphical displays of the data depicted on the following Figures 31-34 appear to substantiate Table 3. It is interesting to note by the height of the pinnacles that open education tends to be more popular with industrial arts professors living in states with high ACIATE membership. It should be noted that the dense symbols in Figures 31 and 32 indicate those areas of the country where ACIATE members were most favorable toward open education concepts. This is not to suggest that industrial arts professors living in other states indicated with light symbols disagree with open education concepts. The symbols merely indicate extent of favor toward open education. Furthermore those areas represented with the letter "M" indicate missing data which resulted when the random sample failed to draw anyone from a particular state.

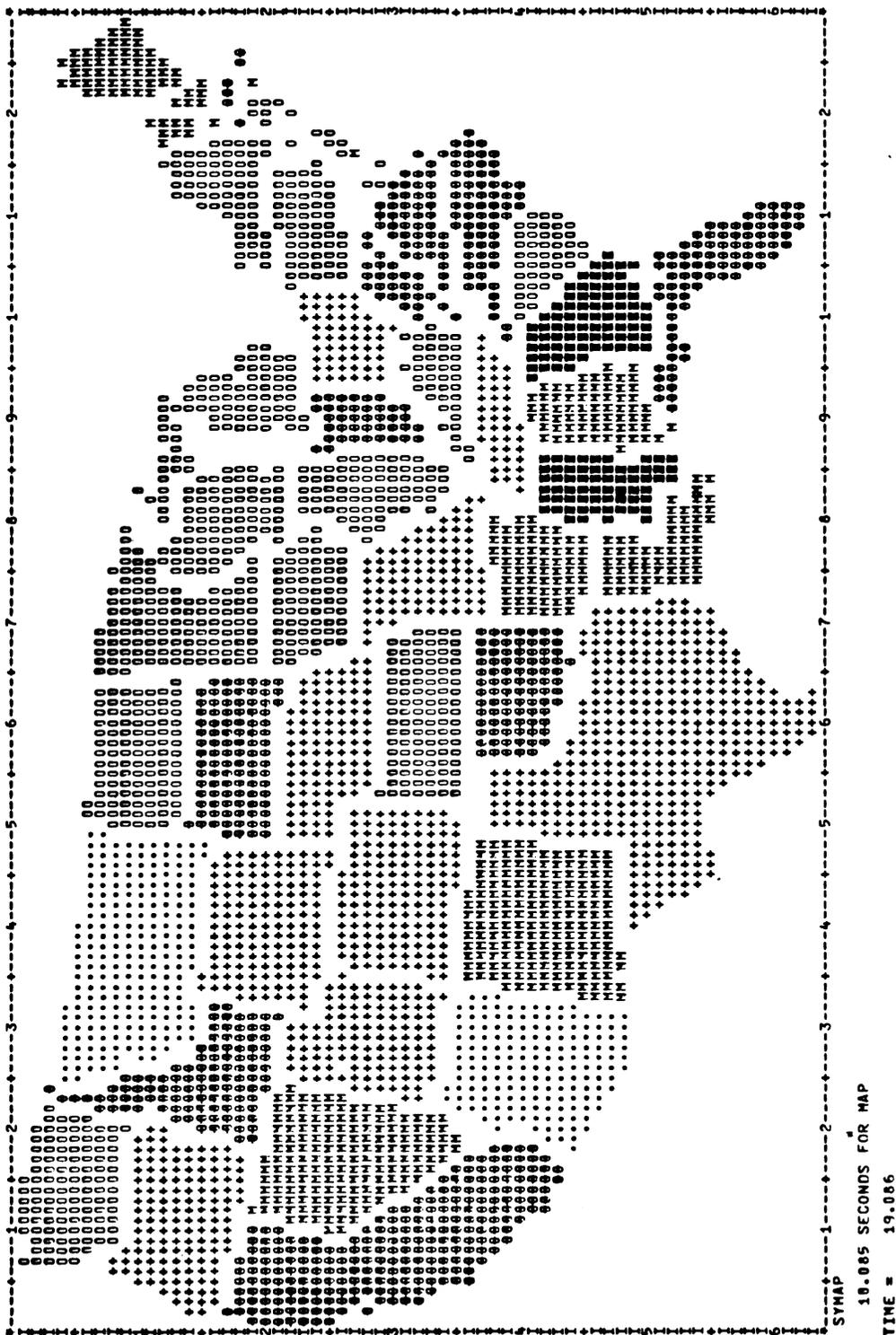
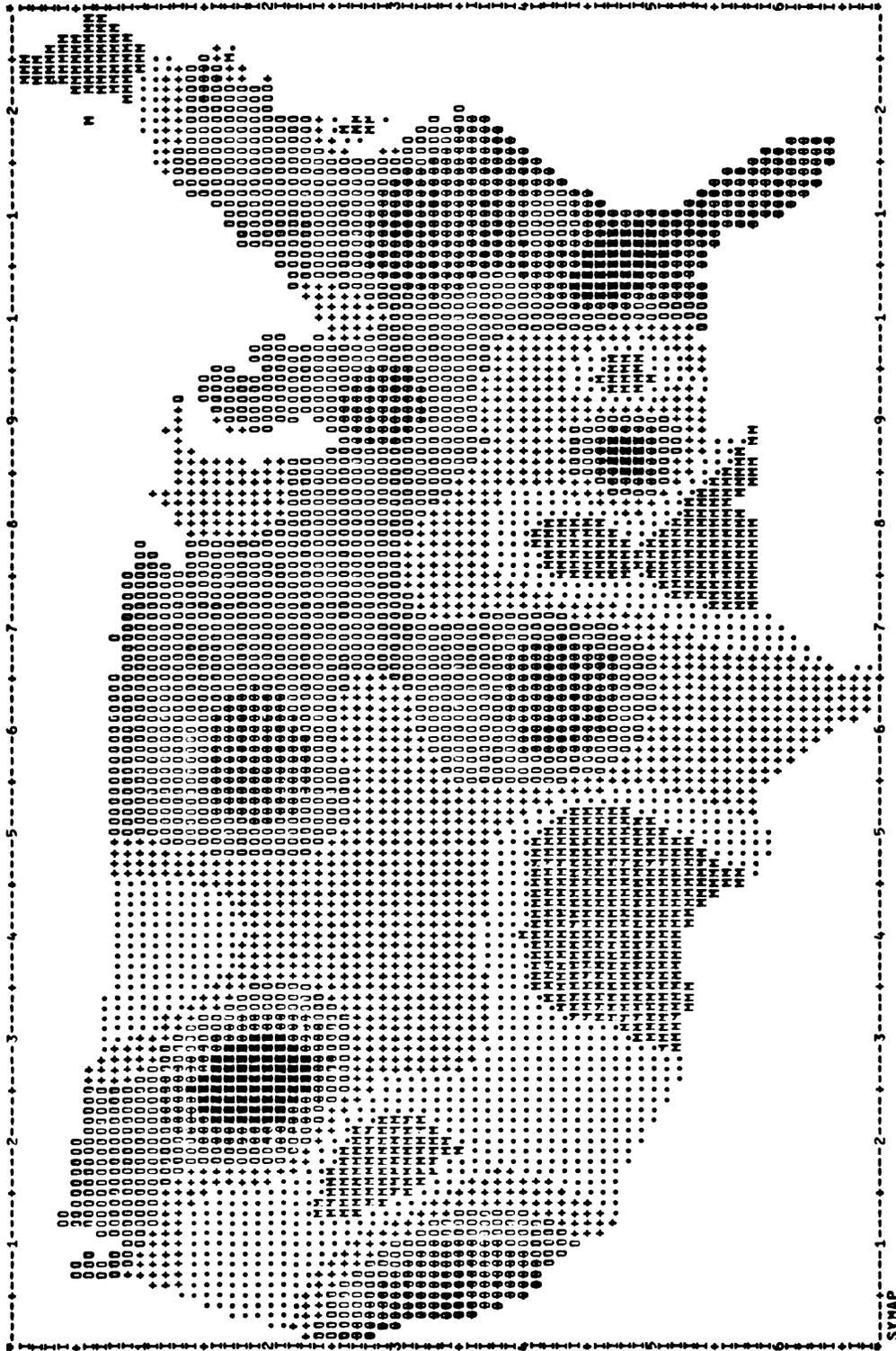


Figure 31.--Cloropleth Display of ACIATE Data via Symap Program 683

683Symap and Symvu were designed by the Laboratory of Computer Graphics and Spatial Analysis, Harvard University.



SYMAP
10.534 SECONDS FOR MAP
TIME = 12.797

Figure 32.--Isarithm Display of ACIATE Data via Sympam Program

Summary

As hypothesized, analysis of the data appears to indicate industrial arts professors support open education concepts. Furthermore the study suggests their acceptance of open education is unaffected by their age, years of teaching, or geographical region. Factor analysis disclosed varying degrees of acceptance to factors labeled "Learning Facilitators," "Evaluating the Child," "Intellectual Development," "Learning through Exploration," "Learning through Involvement," and "Evaluating the Child's Work." It is interesting to note that a remaining factor labeled "Curriculum Flexibility" received a mean response approaching "no strong feeling" by the ACIATE respondents. Chapter VI will summarize and draw conclusions from the study.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR RESEARCH

Summary

The purpose of this study was to investigate whether industrial arts teacher educators have historically held open education beliefs and whether such beliefs continue to be held. Such information is important for the curricular implications. Open education has its derivation from informal education practices in Great Britain, which in turn borrowed from the legitimate progressive education practices in the United States advocated by Dewey.

Open education is in part a reaction against some of the practices found in schools, such as those identified by Charles Silberman in Crisis in the Classroom.⁶⁸⁴ Critics, such as John Holt, charge that American education is too often typified by a woeful neglect of the needs of children. Instead the American dream is destroyed by callousness and insensitivity as manifested in both petty and destructive practices found in our schools.

Such practices include an almost fanatic obsession for grades and competition. Furthermore critics charge

⁶⁸⁴Silberman, op. cit.

that schools provide experiences which are often inconsequential and isolated from the realities of life. The artificiality is promoted by curriculums founded upon discrete disciplinary boundaries.

In addition critics charge that too many teachers are ill prepared for the responsibilities and obligations which they have to their students. Such teachers lack the empathy to adequately perform their duties. These teachers come to see themselves as motivators to children who would otherwise prefer avoidance of the assigned lessons. Accordingly such teachers assume the role of curriculum determinator and authority figure for verification of truth.

Consequently, many pupils take on defensive strategies as they scheme to satisfy teachers. Too often, charge the critics, children's spirits are broken as they become increasingly dependent upon their teachers. Self concept falters rather than increases with each additional year of schooling. Self-reliance and investigative prowess of infancy becomes thwarted through formal traditional schooling.

These defensive strategies take several forms. Critics, such as Holt, contend that even pupils who succeed and seemingly enjoy traditional schools pay the price by being unthinking pawns by never experiencing true intellectual freedom. Many other students simply tolerate what they consider a necessary trivia required for the bounties of adult life. The boredom also turns many students toward anti-social behavior resulting in problems of discipline

including vandalism. A precious few bright and perceptive students are truly successful in school. They are usually characterized, claims Holt, by striving to satisfy their personal intellectual desires rather than their teachers'. Yet another group chooses to drop out of school -- not for personal intellectual shortcomings but rather the school's. Such students come to regard schools as interruptions of education.

Teachers too are often victimized by the traditional school system, so charge the critics. The teachers feel trapped between ambivalent administrators who succumb to public pressure and the restless students. Consequently, the very teachers who entered the profession with a missionary zeal soon become disheartened so as to regard their function as babysitters rather than as educators.

Open educators acknowledge that such criticisms of traditional schools, even if indisputable, become hollow victories unless a viable alternative is available. Proponents contend open education is a solution to many of the problems which plague public education. As suggested earlier, open education is founded upon faith and trust in students. Open education is primarily the operationalism of attitudes toward children reflective of humanism. Accordingly open education advocates contend the experiments of Piaget, Maslow, and Rogers serve to buttress open education practices.

The open educator tends to see himself as a facilitator or guide to learning rather than as a taskmaster. The teacher conducts the classroom in accordance with a belief that children learn at different rates and in different styles. Accordingly the open classroom is typified by a wide variety of simultaneous activities during which time the teacher confers with students and takes notes. The teacher tends to suspend judgment concerning the students. Likewise the teacher typically recognizes a wider variety of behavior for a typical student age level than would apt to be tolerated by a traditional teacher. Also lesson plans are regarded as being suggestive of learning experiences rather than being compulsory. Spontaneity and serendipity thus play an important facet of open education.

The open classroom is typified by a wealth of resource materials although commercially produced materials are shunned, for they often tend to mandate ready made answers. Open educators are also suspicious of the systems approach utilizing behavioral objectives inasmuch as determination of learning often rests solely with the teacher. Furthermore the systems approach may guarantee certain learning but forecloses on the unexpected. Also the systems approach tends to be mechanistic training rather than education.

One strategy employed includes family grouping whereby students of different ages learn and teach each other. Another is the integrated day which breaks down subject

matter boundaries to allow for more natural use of time as activities call upon subject matter as needs arise.

Education should be a pleasurable experience, argue open educators, but this is not to say it should be hedonistic frivolity. Pleasure results when educational experiences are real and meaningful. Boredom, resentment, and apathy result when artificial trivia is foisted off on students. Open educators appear determined that their fare not duplicate the publicized excesses of the worst of the progressive education era. Proponents of open education strive for a system which balances the cognitive, affective, and psychomotor domains. Now is the time for the educational pendulum to stabilize itself.

Many open educators are fearful of an orthodoxy if open education is misinterpreted. A great deal depends upon teacher education institutions. Also a number have expressed fear that open education will not survive without public support. Such support is only possible if the public has an enlightened view of the social, political, and economic consequences of life developed through open education.

This study also set out to suggest that many open education beliefs are less than original. An investigation of the writings of Comenius, Rousseau, Pestalozzi, Froebel, Dewey, and Bode demonstrates that open education was conceived many years ago. In fact the best of progressive education has been rekindled in open education.

Of particular significance to this study is evidence that industrial education and in particular industrial arts when at its best has a legacy of advocacy toward open education concepts. Manual training and manual arts, predecessors of industrial arts, pioneered in progressivism in American education. Industrial arts is and has been open education by bringing technology to children through a multiplicity of experiences. The experiences have centered on reality and thus brought great satisfaction to many pupils. The literature repeatedly signifies greater concern for the effects on the child rather than how he affects his undertaking which has usually taken the form of a project.

So much which is now a part of open education has for many years been advocated for industrial arts. The practical arts of which industrial arts is a part pioneered in offering children experiences which are reflective of real life situations and compatible with natural impulses. The project method and individualized instruction have for many years been advocated in industrial arts. Furthermore industrial arts offers personalized experiences by adapting itself to the needs of children rather than vice versa. Class sizes have been kept reasonably small for safety consideration and to facilitate greater rapport between teacher and students.

This study found that industrial arts literature abundantly contains sentiments virtually identical to those expressed by today's open educators. Admittedly, other

industrial arts leaders have expressed beliefs which are opposed to open education. However, in the main industrial arts leaders have been supportive of open education beliefs.

After the study reported such beliefs held in the past, it turned to investigate whether industrial arts teacher educators continue to hold open education beliefs. For this purpose a questionnaire designed by Dr. Roland Barth was administered to a sample drawn on the American Council on Industrial Arts Teacher Education (ACIATE).

The questionnaire contains twenty-nine Likert type statements of attitude which was validated by Anthony Coletta at the University of Connecticut. Illustrative of the Barth scale is Assumption 7, "Children have both the competence and the right to make significant decisions concerning their own learning."⁶⁸⁵

The ACIATE includes professors of industrial arts throughout the United States. The membership for 1970-1971 includes 1,096 of which 300 were randomly selected to participate in this study. 83.6% of the participants returned usable responses. The positive skew of Figure 1 on page 257 indicates the ACIATE participants in this study are quite receptive to open education concepts.

Further examination of the data revealed no significant correlations by age or years of teaching with acceptance of open education assumptions. Also a univariant

⁶⁸⁵Barth, op. cit., p. 98.

analysis of variance disclosed no significant variance within eight geographical regions throughout the United States.

Conclusions

This study has collected evidence which suggests that industrial arts teacher educators held and continue to hold beliefs about learning and knowledge consistent with open education. Such evidence is significant for its curricular implications.

Industrial arts may well be at a crossroads. Its mission must be clearly understood and realized especially in light of increasing programs in vocational education. Industrial arts content and methodology must be of the highest order if it is to remain viable in American education.

Industrial arts would appear to have a bright future if it derives its content from modern technology, perhaps along the lines of the 1934 Prospectus while demonstrating an open education methodology.⁶⁸⁶ Lee Hornbake said it best, "Industrial arts for all should also mean industrial arts for each."⁶⁸⁷ Over the years industrial arts has actively campaigned to serve all students even prior to public sentiment or enactments of federal legislation.

Open education is much more than a wishfully conceived theory. Programs in Great Britain, North Dakota, and

⁶⁸⁶Warner et al., A Prospectus for Industrial Arts in Ohio, op. cit.

⁶⁸⁷Hornbake, "Industrial Arts for All," op. cit.

Massachusetts are of such size and duration as to provide substantial evidence of open education's credibility. However, open education has to date been largely restricted to the elementary level. Only a scant few secondary open education programs have been successful. It appears industrial arts and probably the rest of the practical arts have been most successful at providing open education at the secondary level. Industrial arts does not require coercive strategies to cajole student interest and cooperation. It succeeds because it isn't limited to future value. Children come to find industrial arts meets immediate needs and interests as well as those of the future. In other words, industrial arts succeeds because students succeed. Thus industrial arts teachers can and should serve as facilitators to learning rather than as taskmasters.

It would seem the recently publicized research of James Coleman, Christopher Jencks, Daniel Moynihan, and others impinges upon open education. A hasty and premature summary of the Coleman report is that schools make no difference in significantly alleviating the difference of achievement levels of black children in comparison to white children. It appears that while schools tend to make little difference, if one is to accept the work of Coleman and Arthur Jansen, the difference is attributed to differences in home environments and heredity.⁶⁸⁸

⁶⁸⁸Godfrey Hodgson, "Do Schools Make a Difference?," The Atlantic Monthly, CCXXXI (March, 1973), 35-46.

What the Coleman report attacks is the question of whether such inequality can be eradicated by investing more money in the schools. It might well be that additional money for education only allows schools to do better those things which shouldn't be done in the first place. Those things which shouldn't be done are what the open educators attack. Accordingly open educators try to see education from a broader perspective than only formal schooling. Although schooling may make little difference in improving one's station in life, education can and should make a difference. The solution to educational problems may not be so terribly expensive, but it might be no less difficult to implement. The solution may lie in reordering attitudes about learning and knowledge toward those held by open educators.

So it is that industrial arts has a vested interest in the welfare of open education, for it would seem industrial arts when at its best is open education. Granted some of the problems facing industrial arts are financial. However, additional monies alone are not the salvation. The mission of industrial arts must be clearly understood and articulated. With the emergence of more vocational programs, industrial arts programs on weak foundations are in jeopardy. However, there is no reason to either fear or resist vocational programs. In fact, contemporary vocational education literature should relieve certain industrial arts educators of the anxiety they appear to hold for vocational education. Indeed there should be a place for both industrial arts and

vocational education. Instead industrial arts must refrain from protectionalism and isolation by turning to concern for the total educational enterprise which affects children.

For its openness and faith in all children industrial arts has an excellent opportunity to nurture healthy self concepts while providing students exciting experiences in the technology of industry. Unquestionably industrial arts is to be available to all children of both sexes and irrespective of their abilities. Industrial arts must continue its mission by offering meaningful content and pedagogically sound methodology. Perhaps now is the time for implementation of Froebel's belief that industrial education should be especially brought to young children. Industrial arts has much to offer career education if interpreted from a broad perspective.

To reiterate with greater specificity, this study has led to the following conclusions:

1. Contemporary open education has a heritage of what might be understood as legitimate progressive education -- what was advocated rather than the aberrations which resulted.
2. Open education as well as progressive education is buttressed by considerable philosophic support by such notables as Comenius, Rousseau, Pestalozzi, Froebel, Dewey, and Bode.
3. This study has identified considerable literature authored by previous leaders in industrial arts teacher

education, which suggests endorsement of open education concepts.

4. The administration of the Barth scale (purported to represent attitudes toward learning and knowledge consistent with open education concepts) to a sample drawn on the American Council on Industrial Arts Teacher Education suggests acceptance of open education concepts as displayed in Figure 1. Of the seven factors within the Barth scale, as determined by Coletta, the factor labeled "Learning Facilitators" was found most acceptable to the ACIATE. "Learning Facilitators" addresses itself to self concept, a rich learning environment, and rejection of discrete disciplines of subject matter. Another factor labeled "Curriculum Flexibility" with a mean approaching "no strong feeling" represents the least acceptable factor to the ACIATE. "Curriculum Flexibility" concerns whether there is certain knowledge essential for everyone and whether students have the right to make significant curricular decisions. It would appear the membership of the ACIATE joins open educators in learning theory, method, and evaluation but becomes hesitant lest the industrial arts experience becomes laissez-faire when students begin making significant curricular decisions.

Implications for Research

As this study proceeded, numerous implications for further research became evident. Each of the following

proposals is tangential to this study and would enhance its significance:

1. Replicate this study.
2. Research educational beliefs held by industrial arts teacher educators on a wider continuum.
3. Compare open education beliefs held by industrial arts and vocational teacher educators.
4. Compare open education beliefs held by industrial arts teacher educators with their students.
5. Compare open education beliefs held by general shop teachers with unit shop teachers.
6. Construct and administer an instrument which examines an industrial arts teacher's stated educational beliefs and the consistency with classroom performance.
7. Administer the Barth scale on teacher educators in other disciplines in an attempt to determine whether industrial arts teachers have educational values unique from other teachers.
8. Prepare a curriculum model whereby industrial arts exemplifies open education while introducing elementary level pupils to industrial arts as career education is implemented.
9. Institute a study to attempt to determine why the ACIATE reacted with "no strong feeling" to a factor on the Barth scale labeled "Curriculum Flexibility."

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APPENDICES

APPENDIX A

Letter of Permission from Dr. Barth to Use Barth Scale

NEWTON PUBLIC SCHOOLS

Angier School

1697 Beacon Street

Waban, Massachusetts 02168

ROLAND S. BARTH, *Principal*

February 2, 1972

Professor Lowell S. Zurbuch
Kent State University
Kent, Ohio 44242

Dear Professor Zurbuch:

I have your recent letter pertaining to my article in the Phi Delta Kappan. Although I have informally administered this scale to a number of proponents of informal education in this country and England, to the best of my knowledge it has never been subjected to any rigorous validation. It may have neither reliability nor validity. Mr. Coletta, at the University of Connecticut, as part of his doctoral dissertation is attempting to validate the instrument this spring. My dissertation developed these assumptions but did not in any way assess them.

Agathon Press, 150 Fifth Ave., New York 10011 will be publishing my book this spring, the title of which is Open Education and the American School.

As I promised, I am enclosing a publication from the Technology For Children Project which you may find corresponds with some of your own interests.

I would appreciate receiving a copy of any materials you develop.

Sincerely yours,


Roland S. Barth

APPENDIX B

Letter of Permission from Phi Delta Kappan to Use Barth Scale

TED E. GORDON.....President
317 North Lucerne Boulevard
Los Angeles, California 90004

M. SOULE.....Vice President
338 West Cinnabar
Phoenix, Arizona 85021

A. GARLAND HARDY.....Director
Ball State University
Muncie, Indiana 47306

BILL L. TURNEY.....Director
North Texas State University
Denton, Texas 76203

REX K. RECKEWEY.....Director
University of Nebraska
Lincoln, Nebraska 68508



PHI DELTA KAPPAN

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International Headquarters Building
EIGHTH AND UNION, BLOOMINGTON, INDIANA 47401
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Director of Special Services Director of Research Services Associate Editor

February 1, 1972

Mr. Lowell S. Zurbuch
Assistant Professor
Kent State University
School of Technology
Kent, Ohio 44242

Dear Mr. Zurbuch:

Dr. Elam has instructed me to tell you that we are very happy to grant you permission to use Roland Barth's article (the question-naire in it) which appeared in the October, 1971, issue of the KAPPAN. Our only requirement is that proper credit be given the author and the KAPPAN.

Sincerely,

(Mrs.) Judith Petermichel
Permissions Editor
PDK Publications

APPENDIX C

Barth Scale Questionnaire Mailed to ACIATE

**KENT STATE
UNIVERSITY**
KENT, OHIO 44242

SCHOOL OF TECHNOLOGY
(216) 672-2892

Dear Professor:

I am asking you and the other members of the American Council on Industrial Arts Teacher Education to complete and return this questionnaire. It should require about ten minutes. The results of this study will contribute toward my doctoral thesis for Michigan State University. There is no need nor intent to identify you personally. For the purposes of this study consider the term "children" to include all K-12 students. Please answer the following questions in addition to marking the other side of the questionnaire with a soft pencil.

What is your age? _____

How many total years of teaching experience do you have? _____

With which contemporary education writer are you in greatest agreement? _____

With which contemporary industrial arts leader are you in greatest agreement? _____

Please use the enclosed envelope to return the questionnaire. Your cooperation is most appreciated!

Sincerely,

Lowell S. Zurbuch

Lowell S. Zurbuch
Assistant Professor of Technology

gr

PLEASE TURN OVER

1. Children are innately curious and will explore their environment without adult intervention. 1
2. Exploratory behavior is self-perpetuating. 2
3. The child will display natural exploratory behavior if he is not threatened. 3
4. Confidence in self is highly related to capacity for learning and for making important choices affecting one's learning. 4
5. Active exploration in a rich environment, offering a wide array of manipulative materials, will facilitate children's learning. 5
6. Play is not distinguished from work as the predominant mode of learning in early childhood. 6
7. Children have both the competence and the right to make significant decisions concerning their own learning. 7
8. Children will be likely to learn if they are given considerable choice in the selection of the materials they wish to work with and in the choice of questions they wish to pursue with respect to those materials. 8
9. Given the opportunity, children will choose to engage in activities which will be of high interest to them. 9
10. If a child is involved in and is having fun with an activity, learning is taking place. 10
11. When two or more children are interested in exploring the same problem or choose the same materials, they will often choose to collaborate in some way. 11
12. When a child learns something which is important to him, he will wish to share it with others. 12
13. Concept formation proceeds fairly slowly. 13
14. Children learn and develop intellectually not only at their own rate, but in their own style. 14
15. Children pass through similar stages of intellectual development, each in his own way and at his own rate and in his own time. 15
16. Intellectual growth and development take place through a sequence of concrete experiences followed by abstraction. 16
17. Verbal abstraction should follow direct experience with objectives and ideas, not preceding them or substituting for them. 17
18. The preferred source of verification for a child's solution to a problem comes through the materials he is working with. 18
19. Errors are necessarily a part of the learning process; they are to be expected and even desired, for they contain information essential for further learning. 19
20. Those qualities of a person's learning which can be carefully measured are not necessarily the most important. 20
21. Objective measures of performance may have a negative effect upon learning. 21
22. Learning is best assessed intuitively, by direct observation. 22
23. The best way of evaluating the effect of the school experience on the child is to observe him over a long period of time. 23
24. The best measure of a child's work is his work. 24
25. Knowledge is a function of one's personal integration of experience and therefore does not fall into neatly separated categories of "disciplines." 25
26. Little or no knowledge exists which it is essential for everyone to acquire. 26
27. The quality of being is more important than the quality of knowing; knowledge is a means of education, not its end. The final test of an education is what a man is, not what he knows. 27
28. The structure of knowledge is personal and idiosyncratic; it is a function of the synthesis of each individual's experience with the world. 28
29. It is possible, even likely, that an individual may learn and possess knowledge of a phenomenon and yet be unable to display it publicly. Knowledge resides with the knower, not in its public expression. 29

PLEASE TURN OVER

Credits: Dr. Roland Barth and Phi Delta Kappan

APPENDIX D

Letter Mailed to ACIATE Non-Respondents

**KENT STATE
UNIVERSITY**

KENT, OHIO 44242

SCHOOL OF TECHNOLOGY
(216) 672-2892

April 24, 1972

Dear Professor:

On April 7 I mailed a questionnaire to you. This questionnaire was coded to locate the geographical area of respondents in the sample for comparison against the entire A.C.I.A.T.E. membership. This is necessary for examination of the representativeness of the sample. There is no need to identify and report on the responses of individuals. The only stratification of responses will be reported by age, years of teaching, and geographical area.

If you are among those who have not returned this questionnaire, I am again asking you to respond to and return the enclosed questionnaire. You will note a code number on the lower left corner of the questionnaire. It is a random number drawn by a computer. As stated above, the purpose of the number is to identify the geographical location of respondents. If you feel the number is an invasion of your privacy, please cut off the questionnaire's lower left corner.

The worth of the study is strengthened by your response. If you have already returned the previous questionnaire, please disregard this letter and accept my thanks. I am most grateful for your help.

Sincerely,

Lowell S. Zurbuch

Lowell S. Zurbuch
Assistant Professor of Technology

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