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An investigation of problems in adult education,
with special emphasis upon a particular program in
the state of Virginia

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AN INVESTIGATION OF PROBLEMS
IN ADULT EDUCATION
WITH SPECIAL EMPHASIS UPON
A PARTICULAR PROGRAM
IN THE STATE OF VIRGINIA

A Thesis

Presented to

The Faculty of the Department of Education

Richmond College

University of Richmond

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VIRGINIA

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by
Roy Conrad Lilly
August 1951

*Approved 8/13/51
E. W. Overton*

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CHAPTER I

THE INVESTIGATION

As the modern system of education progresses, new terms are being applied to old practices with resulting new significances. Such a new term is "adult education"; such an old practice is lifelong learning. The latter is, of course, an ancient ideal in the history of civilization,¹ but adult education as an organized social process is comparatively recent in American life.² Although the term was not recognized under the name "adult education" until 1924,³ in meaning and practice it reaches backward into our early community life to the opening of the first public evening school in 1819,⁴ to the first attempt at institutes and chautauquas,⁵ or to the New England Town Meeting of the seventeenth century where the Puritans jealously guarded their right to "speak out in meeting."⁶

1 Philip Magnus, "Adult Education in Ancient Times," Edinburgh Review, 132:78, February, 1920.

2 Joseph K. Hart, Adult Education in Action (New York: Thomas Y. Crowell, 1927), p. 168.

3 Mary L. Ely, editor, Adult Education in Action (New York: American Association for Adult Education, 1936), p. 69.

4 ibid., Louis J. Alber, "The American Lyceum," p. 71.

5 ibid., Arthur J. Bestor, "The Chautauqua Movement," p. 74.

6 ibid., p. 69.

As the expression is used today, it denotes a slowly evolving ideal which would make man's educational experience a life process and provide opportunity to all people of all ages and classes.

In attempting to formulate a basis upon which a definition of adult education might be built, Lyman Bryson of Teachers College, Columbia University, states:

American adult education has not been of a single and systematic character. It has never been a folk movement for the refashioning of a national culture like that undertaken in Denmark under the leadership of Bishop Gruntvig. It has not been largely a movement for the intellectual improvement of the underprivileged, particularly the "working class," as in Great Britain. Nor has it ever been a definite concern of the government used to propagate a political philosophy as in Italy and Russia, and more recently in Germany. It has always been carried on by a variety of agencies, for a variety of purposes, and with many different kinds of people....It has been thoroughly in accord with our basic democratic idea that education is a common right, that learning is neither something reserved for an aristocracy nor something bequeathed by a superior class to inferiors.⁷

All authorities consulted in the field of adult education fail to define, except in broad principles,

⁷ Lyman Bryson, Adult Education (New York: American Book Company, 1936), pp. 3-4.

the term adult education. Most of them tend to substantiate the opinion of Morse A. Cartwright, former Executive Secretary of the American Association of Adult Education, who says: "...It is far too big and broad a movement to be boxed in by a set of definitions."⁸

It seems apparent that specific limits of extension and areas of inclusion would be hard to determine or define; however, it does not seem difficult to establish the beginnings and thus formulate a working definition of adult education. Such a working definition, evolving from an analysis of the ideals and history of the adult education movement in America, would seem to be arrived at with not too great difficulty. Thus as it would seem feasible to deal with a working definition in such an investigation, the following is suggested: Adult education is the extension of the formal as well as the informal processes of education to all persons of all ages and classes who are attempting to better their intellectual climates and skills at times other than those afforded in the daytime pursuits of formal secondary education.⁹

⁸ Morse A. Cartwright, "New Light on Adult Education," Notre Dame Alumnus, 28:8, March, 1928.

⁹ This definition, of course, excludes those persons who, although beyond the legal age to attend secondary schools at public expense, are permitted to use daytime public educational facilities in order to gain further formal education. This would be adult education.

The designation adult, as legally defined, cannot specifically apply in the field of adult education. Adult education includes those individuals who have left formal secondary education and as working-adolescents continue their education in their leisure time, whether this be of a formal or an informal nature. Thus it is apparent that the term adult education, as used in the working definition, refers more to responsibility and/or partial or whole self-support on the part of the individual.

The areas included in the broad field of adult education, then, are many. They concern university extension work, summer schools, evening classes, study groups, leisure time activities, correspondence courses, women's institutes, vocational study, prison education, public forums and a host of other activities found in every phase of American life.

To treat of all these phases of adult education is not the goal of this investigation. A complete treatment of all the areas of adult education brought together in concise form is needed. A complete guide or textbook would be of immense value to the student. No such work has, at this writing, been accomplished.

The purpose of this investigation is to cover a particular area of adult education as it functions in the State of Virginia. The area for which this

investigation is designed is the training or education of workers within an industry of this State.

Because of the widespread interest, the various activities, the apparent need and possibilities of development, and the lack of a clearly defined ideal, there is a necessity of interpretation and evaluation in order to judge the intrinsic values. One of the purposes of this study will be to give significance to the term adult education.

The definite objects or goals of this investigation are as follows: (1) to formulate a "working definition" of the term adult education; (2) to review and summarize the findings of Edward L. Thorndike's investigation of adult learning and supply further evidence, through practical examples recorded in this study, of his general conclusions; (3) to describe and interpret from a survey and analysis of literature, reports, and books and from extensive discussions with C. J. Schollenberger, Director of Training, Dan River Mills, Incorporated, Danville, Virginia, the general areas of education within industry as a means of understanding the particular industrial program described in this study; (4) to describe, as the result of a survey and analysis of literature and reports, discussions with B. H. Van Oot, Director of Trade and Industrial Education, and search of files of the division,

the general program of Trade and Industrial Education in operation in the State of Virginia, offering a historical review as a means of understanding and interpreting its functions; (5) to describe in detail, as the result of extensive personal investigation, the unique program of Trade and Industrial Education at the Dan River Textile Mills; (6) to summarize, interpret, and evaluate the State program of Trade and Industrial Education and the particular program at the Dan River Mills, and offer the specific and general conclusions arrived at as the result of this investigation.

In order to analyze, interpret, and give significance to the subject, the following outline is followed:

A. A statement of ideals and a discussion of their bases, as an introduction to the study, and a statement of objectives.

B. A report of the investigation Adult Learning by Edward L. Thorndike.

C. A discussion of the general areas of education within industry.

D. A historical review of the program in the United States with emphasis upon the program in Virginia.

E. A description of the State program of Trade and Industrial Education.

F. A description of the program at Dan River Mills.

G. A summary and conclusions.

CHAPTER II

ADULT LEARNING

Quite as recently as William James, psychologists have believed that men could learn very little after they had attained physical maturity. James asserted that few men got any new ideas after the age of twenty-five.¹ The belief current with many was to the effect that the mind of a child was plastic and the mind of an adult fixed and immovable. As a result of the effects of such widespread thinking, Edward L. Thorndike of Teachers College, Columbia University, began an extensive investigation of the problem, the findings of which were published in June, 1928, under the title Adult Learning.² This report has created much interest in the educational world, its great significance being the range of learning investigated and the success of adults in all types of learning. A summary of the results of the principal experiments follows:

The author, after stating his purpose to be that of reporting the facts concerning the changes in the

¹ William James, Principles of Psychology, Volume II (New York: H. Holt and Company, 1905), p. 402.

² Edward L. Thorndike, Elsie O. Bregman, Warren J. Tilton, and Ella Woodyard, Adult Learning (New York: The Macmillan Company, 1928).

nature of ability to learn from about age fifteen to about age forty-five, assembles the important experiments in adult learning made before he began his extensive program. From these it is shown that adults made great improvement at rapid rates in all sorts of mental operations, "in simple sensorimotor abilities, in observing details, in simple associations or habit formation, in learning elaborate systems of motor and mental habits, in memorizing--and in other more complex functions which have been tested."³ As some of these experiments were with graduate students, a question arose concerning the superiority of intelligence in these students and whether this superiority was a factor in ability to learn. The abler intellects might not only have greater ability to learn, but they might retain it longer. This question led to experiments to discover the influence of intellect upon the curve of ability to learn in relation to age.

Their net result is to make it probable that the influence is very slight, that the ablest man and the ordinary man show very nearly the same curve, that the decline of ability to learn begins little, if any, later in the highest one per cent of intellects than in the average man. An allowance of

3 ibid., p. 5.

two years is probably more than ample; if the decline from the prime of life toward senility begins at 55 for the average man, it does not delay beyond 57 for the man whose ability puts him at the top among a thousand. If the arrest of upward progress in general achievement occurs at 43 for the average man, it will occur before 45 for the superior man. If the arrest of upward progress in the ability to learn occurs at 21 in the average intellect, it will occur before 23 in the superior intellect. If superior intellects show nearly as great ability to learn at 30 as at 20, the same may be expected of average or inferior intellects.⁴

Other experiments including two hundred or more learners and covering long periods of learning, undertaken by Thorndike in order to discover the difference between adult learning and youthful learning, were as follows:

1. Experiments in learning to read, write, compute, and form certain simple habits in the case of adult prisoners, covering a range of intellect from near the average to very low ability.

2. Extensive experiments in learning to write with the wrong hand, to typewrite, to understand the artificial language Esperanto, with adults of superior ability.

3. Experiments in typical high school subjects, such as algebra, English, civics, and biology, in the case of adult pupils in public evening schools, covering a range of intellect from near average to very high levels.

4. Experiments in learning by typewriting and stenography in the case of adults in secretarial schools, covering a range of intellects from near the average to very high levels.⁵

⁴ ibid., p.17.

⁵ ibid., pp. 32-33

In the work with adult prisoners of low mental ability, 118 men were given initial, intermediate, and final tests in ten different kinds of learning--reading, spelling, vocabulary, composition, writing, addition, subtraction, multiplication, division, and arithmetic problems. The results were compared with the norms for children in grades corresponding to the standards, as the divisions of work were called in the prison, in which these men were enrolled. It was found that the men learned, on the average, in eleven months what children learn in nine. Stated another way the men made eighty-two per cent of the progress made by children during the same number of months of schooling. The children's day, however, was four times as long as the men's, and the children spent more hours on reading, writing, spelling, and arithmetic during nine months than the adults did during eleven months. The conclusion is that the men learned these school subjects more rapidly than they would have learned them at the age of ten or eleven. It was found, also, that results with these men of low mental ability support the conclusions that the curve of ability to learn in relation to age from twenty-two to forty-two is a very slow decline and is no greater for inferior intelligence than for superior.

Experiments with adults of superior ability included writing with the wrong hand, typewriting, and learning a logical system, Esperanto. The choice of these subjects is significant because of the type of learning required and the amount of ability necessary for mastery. In learning to write with the wrong hand, "not only do none of the old habits of movement fit the new demand; they are distorted in a complicated way."⁶ Ability to learn typewriting has significance for ability in learning a trade in which skill with the hands is required, and ability to learn a logical system like Esperanto indicates ability to learn other highly systematic and intellectual subjects such as Latin, Greek, and other languages, algebra, astronomy, biology, the social studies, or any subject which has a system of organized facts and principles.

In an experiment with eight adults ranging from twenty-two to fifty-two years of age, learning to write with the wrong hand, it was found that within the short period of fifteen hours of practice plus forty minutes allowance for practice effect of the tests themselves, those subjects who maintained substantially the same

6 ibid., p. 46.

quality of handwriting, much more than doubled their speed, and those who worked for a higher quality obtained it and still made a very substantial gain in speed. The gain by this group in less than sixteen hours of practice was greater than the gain proposed by experts as suitable to be accomplished by children using the right hand in two years' growth and schooling, including one hundred or more hours of special practice in handwriting. Other experiments also showed rapid gain in both speed and quality. Results in typewriting showed progress which compared favorably with those obtained in commercial high schools from younger students. Results from experiments in Esperanto showed that "the difference between age twenty-two and age forty in ability to learn a logical, systematic language is small, and is confined largely to the oral test...."

The facts are in flat contradiction to the doctrine that childhood is the period for easiest learning to read, write, or understand the hearing of a language, and that the early teens are the period next most advantageous.⁷

Thorndike next reports on ability in high school subjects in the case of 886 pupils in two large evening schools who were taking one or more of the following subjects--algebra, biology, civics, English, French, German, Latin, and Spanish. A great deal of time was

⁷ *ibid.*, p. 47.

devoted to typewriting and shorthand because this type of learning is a "genuine sample of professional and trade learning."⁸ The results from the experiments in the secretarial school were not as satisfactory as the investigators had hoped because the number of students over twenty-five was very small even in schools which have the largest proportion of adults. The results from all the experiments in these two groups support the general conclusion from all experiments that ability of adults to learn rises till about twenty and then, perhaps after a stationary period of some years, slowly declines. The decline is very slow, however, so that persons under fifty are encouraged to learn anything which they really need to learn, and even those over fifty are not to be deterred from learning for fear of being too old.

In addition to these and other experiments, Thorndike secured the testimony of thirty-nine persons forty years old or older, of forty-three persons thirty to thirty-nine years old, and of seventeen persons twenty to twenty-nine years old, each concerning his own ability to learn from childhood to his present age. This inquiry was made for the purpose of discovering why adults were prevented from learning since they were not prevented by

⁸ ibid., p. 77.

inability to learn.

In general the testimony of this group indicates (1) that almost anything is learnable at any time up to fifty, (2) that the experience of these individuals leads them to expect more difficulty in learning from forty on than from thirty to thirty-nine, except with making and breaking food habits, (3) that the difficulty expected from thirty up to forty is no greater than from childhood or adolescent years in the case of intellectual acquisition pure and simple, and (4) that, in general, age seems to them to influence the power of intellectual acquisition very much less than it influences motor skill. There is evidence also that (5) the difficulty expected in learning at late ages is in part due to a sensitiveness to ridicule, adverse comment, and undesired attention, so that if it were customary for mature and old people to learn to swim and ride bicycles and speak German, the difficulty might diminish.⁹

In his conclusions from the whole study, Thorndike says that, in general, nobody under forty-five should hesitate through fear that he is too old to learn anything which he should desire to know, and that if he fails to learn it, inability due to old age will rarely be the cause. He either lacks the ability to do that particular thing, or his desire is not strong enough to cause him to put forth the proper effort, or the methods of procedure are inadequate and would have been at any age.¹⁰

Thorndike's more recent books, as well as the

9 ibid., p. 124

10 ibid., p. 177

findings of the investigators at the University of California and other centers of psychological inquiry have tempered, of course, the original enthusiasm somewhat of the 1928 study; but they have not changed the basic principle that age is not a bar to further learning. Recent research has indicated that learning by adults is slower than learning by the young, and that mature persons are more easily discouraged.

Thorndike is, of course, offering no evidence that men and women do not grow old and, in aging, lose some of their powers. What he does offer is a guide to the powers which can be maintained.

All evidence supports the conclusion that age, in itself is a minor factor in either success or failure.... "Capacity, interest, energy and time are the essentials."¹¹

While increasing age does present difficulties in learning, it would seem that adaption and organization of subject matter to individual differences can serve to diminish many problems.

Granted that the adult who comes to school voluntarily will require less stimulating of interest than those driven by parental or state authority, he is,

¹¹ ibid., pp. 178-179.

however, handicapped because he often comes to school after a hard day's labor and must resist the desire for rest or some favorite recreation.

On the whole, however, the psychologists and others who have investigated adult learning give strong support to those who have given time and thought and money to adult education. The results of the investigations of adult learning can bring encouragement to those who cannot read or write, to those who have only an elementary education and wish to pursue their work through high school, to those who need technical training for a trade or profession, to employer and employee in industrial plants where new machines are being introduced, to those seeking cultural subjects and intellectual recreation, and to everyone who has the desire or need to learn. And with specific reference to the problem at hand, the results can greatly encourage the teachers of as well as the workers in industry.

CHAPTER III

EDUCATION WITHIN INDUSTRY

The education of working groups, in the sense of programs devised for underprivileged wage earners, has been the function of adult classes in Great Britain and in some other countries.¹ In America, the term has been applied mostly to programs organized by groups of wage earners according to their own conception of what they need.² Programs of this self-directed nature have been carried on by the Worker's Educational Bureau of America, closely affiliated with the American Federation of Labor,³ by a number of schools in special summer session, particularly for women in industry,⁴ by unions cooperating with extension divisions of universities,⁵ and most widely by labor unions for their own members.⁶ In many cases,

1 Lyman Bryson, loc. cit.

2 Mary L. Ely, editor, Adult Education in Action (New York: American Association for Adult Education, 1936), p. 203.

3 ibid., Edward Chappell, "Labor Institutes," p. 211.

4 ibid., Herbert Smith, "Bryn-Mawr Summer School Students," p. 342.

5 Ruth Kotinsky, Adult Education and the Social Scene (New York: D. Appleton-Century Company, 1933), pp. 133-137.

6 Jack Barbash, Labor Unions in Action (New York: Harper and Brothers, Incorporated, 1948), p. 159.

courses have been conducted for remedial education, but many more have been organized for political education.⁷ The latter has, in many instances, allied the program with certain types of "party" political schools for adults which are the expression of definite attitudes toward the government.⁸ Although many of these programs are designed to better working conditions and promote loyalty to the government, many more are designed to propagate subversive or communistic philosophy.⁹

There is reason to believe from recent events that many students in these workers' programs are beginning to ask for studies of a liberal nature. However, a fundamental dispute between two groups of practitioners in this field remains. Some believe that their purpose should be to bring the widest possible educational offerings to workers. The other group believes in a class-conscious program. The leaders seek, more or less, through workers' education to bring the industrial employees of the country into a

7 loc. cit.

8 loc. cit.

9 Edward D. Sullivan, This Labor Union Racket (New York: Hillman-Curl, Incorporated, 1936), pp. 196-229; (see also) Jack Barbash, op. cit., pp. 20; 51; 60; 211; 207-210.

politically effective block.¹⁰ Again, in the second group, there are certain subversive thinkers who, owing allegiance to communistic principles, wish to gain control of the government.¹¹

Workers as members of the community have the same reasons for wanting improved intellectual conditions as other people have, and will attain them by the same agencies, whether they set up the agencies for themselves or use their share of what is offered to the whole social community.

The great majority of adults who seek additional education and training are workers who desire a type of training that will aid them to perform better the work of their present position or which will prepare them for advancement in some other field of work in which they are more interested.¹² Those students who wish additional training in the fields in which they are at present employed present an educational problem entirely different from that of students who desire to leave their present types of occupations and enter new lines of endeavor.

10 Edward D. Sullivan, loc. cit.

11 Herbert Harris, Labor's Civil War (New York: A.A. Knoph, 1940), pp. 17;130;132;134;135;136;139;141.

12 John M. Amiss and Esther Sherman, New Careers in Industry (New York: McGraw-Hill Book Company, 1946), pp. 203-213.

The former require training to supplement that received on the job. The latter require, usually, the rudiments, or even the prerequisites, of the new occupation. One is an extension or intensification of similiar training, the other is retraining along new lines.

Under the apprentice system each trade formerly trained its own workers and usually determined their number in accordance with the needs of that trade or industry. With the decline of the apprentice system, the problem of training workers for industry became a very serious one,¹³ which has not as yet been satisfactorily solved. Private institutions have taken a hand in attempting to equip workers for industry, but the major portion of that responsibility has fallen upon the public schools. For the most part, industry has avoided the burdensome duty of training those who are to work therein.¹⁴ Organized labor has generally frowned upon attempts to train a surplus supply of workers because of the fear that a large labor reserve of capable craftsmen might result in a decrease of wages.

The part played by the evening schools in the

¹³ Nathaniel Peffer, Educational Experiments in Industry (New York: The Macmillan Company, 1932), p. 6.

¹⁴ ibid., p. 12.

training of workers for industry has been, and still is, a very important one. Indeed, most of the evening schools were originally founded for the training of young artisans.¹⁵ Throughout the following years of growth the scope of the work offered in the evening high schools has expanded beyond this single function, but even today it still occupies a most prominent place in the curriculum.

Administrators of public schools face an extremely difficult situation in attempting to provide, not only industrial education in general, but also numerous different types of specific vocational training for children and adults in the community. In those communities which have a great diversity of occupations, the question naturally arises as to the particular industries for which training shall be offered.

The matter of expense usually dictates that training shall be offered only in those occupations for which there is the greatest demand. This procedure tends, at times, to furnish an oversupply of labor in one or two fields and to neglect certain other occupations in which there may be a shortage of trained workers. Many schools limit their

¹⁵ Paul Monroe, editor, A Cyclopedia of Education (New York: The Macmillan Company, 1911), Volume III, p. 522.

activities to those subjects for which there is an active demand, either by the prospective students or by industrial groups that demonstrate to the school officials that there is an urgent need of training workers in their particular fields.

Since the turn of the century, there has been slowly developing a movement for training within industry itself.¹⁶ Various large industrial organizations have undertaken to work out systems and methods that will train new employees to do their work more effectively, and also to prepare their older employees for advancement. This type of school has several disadvantages that limit its usefulness. First, it is restricted to larger industrial organizations because of the expense involved and because of the large number of employees necessary before classes can be organized. Obviously, small establishments have neither the money nor the number of employees necessary for the formation of schools within those industries.

Again, education within industry involves the loss of students who fail to complete the training, and those who leave the company after the training is completed. Since industry invests large sums in the training of its

¹⁶ Nathaniel Puffer, op. cit., p. 8.

personnel, it does not care to have its employees leave for a competitor after they have received a course of instruction designed to prove remunerative to the company offering that training.

A final factor that is frequently overlooked is the breakdown of the system in times of depression, when the number of employees is reduced to the point where it is not profitable to conduct classes, and when the finances of the organization do not permit the continuance of the expenses incident to the conduct of the corporation school.

The past decade has witnessed a tendency toward increased cooperation between corporations and the public schools that may result in the general establishment of a policy of training which does not have any of the disadvantages of present procedures. Corporations are requesting public school officials to cooperate with them in organizing their training programs, in preparing their courses of study, and in supplying teachers to conduct this work. Usually the manipulative skills are taught in the shop under the direction of skilled foremen, who perform the double function of maintaining production rates and at the same time developing in the new workers the skills necessary for the most efficient conduct of the various

jobs they will be called upon to perform. All related work that does not require the shop equipment is conducted in classrooms specifically designed for instructional purposes. This teaching is performed by persons skilled in pedagogy who also possess a thorough knowledge of the duties of the employees. All related work has a direct bearing on the industry, and may include mathematics, drawing, science, industrial civics, industrial relations, and industrial hygiene.

The most effective classroom work is performed when, for each subject there has been prepared a series of job sheets covering the entire field. Each job sheet represents the smallest workable teaching unit and should contain sufficient information to enable the student working with it to progress with a minimum amount of assistance from the teacher. The use of this device enables the teacher to overcome the difficulties occasioned by the presence in the classroom of individuals of varying degrees of previous preparation, and also minimizes the problem presented by an influx of students into the class at various intervals during the year. The amount of labor involved in the determination of the content of these courses of instruction and the preparation of their lesson sheets is great, but the values derived from such a procedure more than compensate

for the investment of the requisite time and trouble by their returns of increased efficiency in teaching, of more rapid rates of progress, and therefore of greater benefits to the individual and to society in general.

Many industrial organizations have realized the need for adequate vocational training along commercial lines. Public evening schools as well as private institutions have, to be sure, offered courses for the preparation of men and women for commercial activities, but this training has too often, as attested to by employers and personnel directors, been inadequate for a given job resulting in expense to employers as the result of careless and inefficient work. Consequently, industrial organizations have set up within their program courses of instruction designed to meet the needs of their particular concern and improve general efficiency and background of the commercial employee.

Relatively little progress has been made toward providing industrial education for women. As a result of World War II, some impetus was given to training of women who came in vast numbers to replace men needed for military service. Also the growing need, as the result of increased costs of living, on the part of the family for additional funds, causing more women to seek employment, has made the need for industrial education of women more

apparent. Some few factories have encouraged women to take advantage of the same facilities offered to the men.

Obviously, school officials can hardly be expected to equip a school or schools with all the different types of machines used by the numerous industrial establishments in which men and women work, although a partial solution has been found there in the selection of the most common types of machinery.

Industrial education is given within industry as well as within the school. The existing situation calls for even greater cooperation between the two institutions.

Fortunately, there does exist in the State of Virginia a program of education within industry which has, for all practical purposes, solved the many problems herein presented. It can serve as an encouragement to industry and public education in general. This program is being carried on in the famous Dan River Textile Mills located in the City of Danville, Virginia. It is to be the purpose of Chapter VI to describe this unique program as an example of what is--and what can be--done to educate and train workers in industry. Further it can offer immense encouragement to the many industries and public and private school systems concerned with worker education. For in this precedent a solution to their many problems is advanced.

Chapter IV will deal with a historical review necessary to a complete understanding and evaluation of the Dan River Program and the conclusions to be drawn therefrom.

CHAPTER IV

A HISTORICAL REVIEW

Vocational training received very little consideration until the beginning of the twentieth century.¹ Two forces have contributed largely to its development-- increased competition in trade and industry and the demand for manufactured products on the one hand, and the development of ideals of democratic education on the other. Before the recognition of the necessity of industrial education, the curricula of the public schools had been of an academic type designed largely for the learned professions and for entrance into the liberal arts course in college.² As a consequence, there were vast numbers of children whose education was unprovided for, and they were thrown out into the world unprepared to meet their own economic needs. Educators began to consider the needs of those leaving school, and industry became concerned about increased efficiency. Thus it is seen that, from the beginning of the development, both education and industry have been interested in industrial education.

The first fifteen years of the twentieth century were years of investigation, discussion, and experiment.

¹ Frederick J. Allen, Principles and Problems of Vocational Guidance (New York: McGraw-Hill Book Company, 1927), p. 5.

² Freeman R. Dutts, A Cultural History of Education (New York: McGraw-Hill Book Company, 1947), p. 301

Commissions were sent to England to study conditions there;³ in 1906, Massachusetts appointed a Commission on Industrial Education to study the situation in the State;⁴ in 1907, Wisconsin enacted the first trade-school law;⁵ and in 1913, a Presidential Commission was appointed to study the situation in America and make recommendations.⁶ Some facts revealed by the Presidential Commission showed the lack of vocational training in the United States. It was found that in 1910 there were approximately 12,659,203 persons engaged in agriculture and 14,261,376 persons engaged in manufacturing and mechanical pursuits,⁷ not one per cent of whom had had adequate training for the work.⁸ The report of the Commission was submitted to Congress in 1914;⁹ and in 1917, a bill known as the Smith-Rugles

3 Second Annual Report of the Commission on Industrial Education, Boston: Wright and Potter Printing Company, 1906, p. 33.

4 Paul Monroe, op. cit., p. 432.

5 loc. cit.

6 Report of the Commission on National Aid to Vocational Education, Washington, D.C.: Government Printing Office, 1914.

7 ibid., p. 17.

8 ibid., p. 18.

9 Charles A. Prosser, Vocational Education in a Democracy (New York: The Century Company, 1925), pp. 429-433, citing the Report of the Commission on National Aid to Vocational Education, op. cit.

Vocational Education Act, for the purpose of carrying out a program for aiding in a system of training in agriculture, trade and industry, commerce, and home economics, was passed.¹⁰

The primary purpose of the Federal Act is to train for service in some useful trade or occupation. The standards are set by the Federal Board. Those which concern the type of work with which this investigation deals are:¹¹

1. The controlling purpose must be to fit the individual for useful employment.
2. Instruction must be of less than college grade.
3. Training must be designed to meet the needs of persons over fourteen years of age who have entered or are about to enter on a vocation.

The types of schools with which this investigation is concerned are part-time schools and evening schools in trade and industry.

Part-time schools are conducted in trade and industry for employed young persons over fourteen years of age.¹² Instruction in these must be given during the

10 Subsequent legislation has been in the form of the George-Reed, George-Elzy, and George-Deen Acts which have served to supplement the original appropriations.

11 Charles A. Frosser, op. cit., pp. 429-433.

12 loc. cit.

day and must continue for not less than 1½ hours during the whole year.¹³

Part-time classes are of three kinds: (1) part-time trade extension, the purpose of which is to increase the efficiency of the worker in a vocation already undertaken; (2) part-time preparatory, the purpose of which is to prepare young workers for a vocation other than that in which they are employed; (3) part-time general continuation, in which the objective is to increase the civic and vocational intelligence of the worker. (This is the only type of part-time school in which general academic subjects may be taught, and is designed for younger groups with limited education.¹⁴

Evening schools are designed for adult workers who wish to supplement their skill and knowledge by studying in the evenings.

Turning from the Federal basis for trade and industrial training to the development in Virginia,¹⁵ one finds that the State was not slow in meeting the requirements for making Federal funds available for State

13 loc. cit.

14 loc. cit.

15 The information contained in this chapter on the historical background of vocational education in Virginia was obtained from the files of the Division of Trade and Industrial Education.

use. In 1918 the legislature created the Virginia State Board of Vocational Education, the personnel of which was the same as the State Board of Education, and appropriated funds which matched the Federal appropriations and established the three divisions of Vocational Agriculture, Vocational Home Economics, and Trade and Industrial Education, each of which was under the supervision of an officer appointed by the board and especially prepared for such supervision. In 1917-18, evening schools for adults were organized in vocational home economics; in 1918-19, in trade and industrial education; and 1922-23, in vocational agriculture. Thus adult education, soon after the establishment of these separate departments, became a part of all three types of education. The support of the work in Virginia is in accordance with the Federal provisions except that, in some cases, the State funds are supplemented by those of local school boards or private corporations. The work of the Division of Trade and Industrial Education in the State will be given special emphasis in this study.

There is in Virginia the same need for trade and industrial education as in the nation as a whole. The State is rapidly becoming industrialized. The findings of the Report of the Virginia Education Commission (1944) show

that neither in curricula nor in methods are the high schools meeting the needs of the school population.¹⁶ Consequently, there are great losses in the high school. In 1949 there were 84,785 young persons between the ages of seven and twenty who were not in the public schools.¹⁷ Although these are not adults in the legally defined sense, many of them have assumed the responsibilities of adult life and are found in the ranks of industry and in isolated rural areas without opportunity for further education. There is no compulsory law in the State, as there are in many other states, providing part-time or continuation schools for these young workers. Because the vocational and cultural needs of this group are great, and because the provision for them is on a voluntary basis, and they therefore will be provided for by the same general methods as adults, mention will be made of opportunities especially designed for them but open to adults.

The evidence pointing to the need for an even greater program of education for employed workers in the State

¹⁶ Report of the Virginia Education Commission, Richmond: Division of Purchase and Printing, 1944.

¹⁷ Public Education in Virginia, Richmond: State Department of Education, 1949, p. 3.

shows that:¹⁸

1. Illiteracy among factory workers retards production, increases accidents and spoilage, prevents the advancement of workers to better jobs, and increases the administrative and supervisory burden of the managers.

2. Skilled labor is being imported into the State whenever certain types of work requiring high skill and technical knowledge are required for the successful performance on the job.

3. Industries employing highly skilled, technical workers are not being attracted to Virginia because of the lack of a supply of competent workmen; and conversely, young men who are being trained in the State's technical colleges are required to seek employment outside the State, thus depleting the population of highly trained, intelligent persons, while retaining the persons of less intelligence and skill.

4. Industries in Virginia that are capable of expanding are prevented from doing so because of the lack of skilled labor.

5. Many manufacturing plants are producing only semi-finished products and are sending those products out-of-state to be worked upon by the highly skilled, hence highly paid, workers of other places.

With this introduction in mind, the investigation next turns to a survey of what the State of Virginia is doing to train its workers.

¹⁸ From the files of the Division of Trade and Industrial Education.

CHAPTER V

THE STATE PROGRAM

The State of Virginia, through the Trade and Industrial Service of the Division of Vocational Education, State Department of Education, is maintaining a varied program in trade and industrial education.

This service is concerned with the vocational preparation of persons who are employed in the mechanical trades and public service occupations, with the training of instructors for trade and industrial pursuits, with the general education in the mechanical fields of high school and junior high school students, and, under prescribed conditions, with the vocational education of persons employed in commercial and clerical vocations. The service cooperates with local school boards in organizing classes, making surveys, promoting the development of vocational education, and in paying the salaries of instructors of approved vocational and industrial arts classes. Further the service cooperates with industrial organizations in setting up and maintaining programs of vocational training.

In order to meet the needs of different classes of workers or prospective workers, provisions are made for the organization of classes. These provisions are as follows:

1. Day Trade Classes are organized for boys and

girls who have decided to follow a given trade or industrial pursuit. These classes meet during the daytime and emphasis is placed upon the acquisition of trade skills and related trade information, though from one-fourth to one-half of the day may be devoted to the pursuit of non-related academic subjects;

2. Evening Vocational Classes are organized to increase the skill and/or related technical knowledge of persons who are employed during the day in any trade or industrial pursuit. The instruction in the evening classes must be supplemental to the kinds of work the persons are doing during the daytime;

3. General Continuation Part-Time Classes are organized for the benefit of workers in stores, hospitals, offices, industries, etc., who wish either to increase their skill and knowledge of the vocation which they are following or to complete a general elementary or high school academic course. Anything may be taught in these classes which will increase the general or vocational knowledge of the workers. These classes are held during the daytime;

4. Trade Extension Classes are those classes in which instruction is given to employed workers for the purpose of increasing or extending their skill and knowledge in the trade or occupation in which they are or have been engaged. Classes offering related instruction for apprentices, for workers in skilled and semi-skilled and other occupations, and for employed public service workers, and classes providing instruction designed to increase or extend the knowledge or skills of workers in trade and industrial occupations, are trade extension;

5. Trade Preparatory Part-Time Classes are classes in which instruction is given to workers who have left the full-time schools for the purpose of fitting themselves for useful employment in trades, occupations, or fields of industry, other than those in which they are or have been employed. These classes prepare a person to change from one type of employment to another type;

6. Foremen and other minor executives may attend foreman training classes, the objective of which is to increase their supervisory, teaching and managerial abilities;

Table I-- State Coverage in Trade and Industrial Education,
1949-1950.*

Cities	Number of Cities	Number of Classes	Enrollment
Day Trade Classes	11	218	4,501
Industrial Arts Classes	24	243	18,606
Trade Extension Classes	18	228	4,145
Part-Time Cooperative	11	16	341
Teacher Training	1	2	86
Veterans Training	24	73	1,669
Counties	Number of Counties	Number of Classes	Enrollment
Day Trade Classes	11	97	2,133
Industrial Arts Classes	41	112	8,815
Trade Extension Classes	98	463	5,899
Part-Time Cooperative	12	13	289
Teacher Training	1	12	30
Veterans Training	69	90	2,003

* The information for this table was furnished by the
Division of Trade and Industrial Education.

7. In order to secure properly qualified instructors for these several types of classes, provisions are made for organizing instructor training classes;

8. General Shops are organized in junior and senior high schools. While the objectives of these shops are not to give specific vocational information, yet some students acquire considerable vocational information and skills. The specific objective of these general shops is to give boys an opportunity to give expression to any mechanical or scientific aptitudes that they may possess, to serve them to discover themselves, and to give them a limited amount of vocational guidance;

9. Specific courses are organized for public service employees, including firemen, policemen, finance officers, public utility operators, sealers of weights and measures, public welfare and social workers, persons in charge of correctional and eleemosynary institutions, and other employees of the State and political subdivisions thereof.¹

The State coverage in trade and industrial education is seen in Table I.

During the year 1949-50, the latest for which figures are available, 10,344 working persons in Virginia, representing forty-four different vocations, received instructional services in vocational skills and related technical information, in the Part-Time Trade Extension Service, at a total cost to the State of \$110,901.17. Also during this year 34,685 persons received instruction and training in the

¹ Annual Report of the Superintendent of Public Instruction of the Commonwealth of Virginia, Richmond: Division of Purchase and Printing, 33:144-145, September, 1950.

Table II-- Expenditures for the Various Services of Trade and Industrial Education, 1949-1950.*

Type of Class	Enrollment	Federal	State	Local	Total	Per Capita Cost
Part-Time Trade Ext.	10,344	33,846	47,359	29,695	110,901	10.72
Day Trade	6,634	70,448	159,168	303,709	593,326	89.43
Part-Time Cooperative	630	19,243	39,596	30,838	89,678	142.34
General Shop	27,421	110,708	567,432	678,140	24.73
Totals..	45,029	123,537	356,832	991,676	1,472,046

* The information for this table was furnished by the Division of Trade and Industrial Education.

Day Trade, Part-Time Cooperative, and General Shop Services at a total cost to the State of \$1,361,144.89. The total cost of the entire program of Trade and Industrial Education was \$1,472,046.06.²

Table II shows a breakdown in expenditures for the various services for the year 1949-50, including the per capita cost.

Table III shows a breakdown in the enrollment of the various services and shows the growth of enrollment since the program's inception in 1918.

A few programs of trade and industrial education of more recent development in Virginia include the following:

1. Technical Schools. These schools offer, at present, pre-employment training in many of the trades and in office occupations. Their purpose is to make this training available to those whose home schools cannot justify such offerings. Operating boards collect tuition to cover local share of costs for which such boards are not obligated. They are of the following types:

- a. Regional Technical Schools with dormitory facilities owned and operated by local school boards but enrolling students from all parts of the State. Offerings in highly specialized trade and technical fields are divided among these schools to avoid duplication. The following schools are in

² Under the Smith-Hughes and George-Bardon Funds, the State receives a third of the funds for the Trade and Industrial Program from the Federal Government. This is on a matching basis, one-third Federal, one-third State, and by State regulation, one-third local.

Table III-- Growth of Trade and Industrial Program, 1917-1950.*

Year	Part-Time	Day Trade	Evening Trade	Part-Time Gen.Cont.	Part-Time Coop.	Gen. Shop	Tot. All
1917-18							
1918-19		40	646	112			798
1919-20		151	418	362			931
1920-21	201	111	471				783
1921-22	426	201	487				1,114
1922-23	157	326	766				1,249
1923-24							
1924-25	941	981	1,164	295			3,381
1925-26	651	968	1,073	248			2,940
1926-27	1,057	1,198	2,329	446			5,030
1927-28	764	1,049	3,685	266			5,764
1928-29	978	1,129	2,084	287			4,378
1929-30	1,503	1,383	1,969	243			5,089
1930-31	1,348	1,263	5,113	388		3,269	11,381
1931-32	1,411	1,158	5,780	394		6,120	14,863
1932-33	1,751	1,391	6,170	296		6,034	15,642
1933-34	2,494	1,120	2,451	378		4,398	10,841
1934-35	3,073	1,603	3,773	834		5,327	14,610
1935-36	3,843	714	1,016	1,900		2,945	10,418
1936-37	3,410	1,066	1,792	1,575		3,516	11,359
1937-38	3,489	1,405	1,878	1,526	44	4,987	13,329
1938-39	4,003	1,893	2,862	1,942	164	7,081	17,945
1939-40	5,768	2,138	3,271	1,242	204	10,186	22,809
1940-41	6,658	2,687	3,718	1,324	237	10,585	25,209
1941-42	8,923	2,577	2,251	871	509	14,000	29,131
1942-43	10,030	2,645	380	2,360	476	19,457	35,348
1943-44	7,299	2,258		2,010	376	14,751	26,624
1944-45	7,894	2,622		3,403	428	18,484	32,831
1945-46	10,182	4,149		1,296	426	20,410	36,463
1946-47	11,118	5,306		2,827	473	23,812	43,536
1947-48	10,543	5,136		733	566	25,124	42,102
1948-49	11,114	5,940			505	27,526	45,085
1949-50	10,344	6,634			630	27,421	45,029

* The information for this table was furnished by the Training Department of Dan River Mills, the information for which was obtained from the Division of Trade and Industrial Education for use in statistical work carried on by the mill.

this group: Danville Technical School, Danville; Woodrow Wilson Technical School, Fishersville; and Manassas Technical School, Manassas.

b. Area Technical Schools offer pre-employment training in many of the trades and in office occupations to persons within daily commuting distance. Such schools are: Wise County Technical School, Wise; Washington County Technical School, Abington. The vocational departments of high schools in the larger cities accept students in their vicinity.

c. Regional High Schools with dormitory facilities and vocational departments are: Manassas Regional High School, Manassas, and Christiansburg Industrial Institute, Christiansburg.

d. College departments with vocational offerings below college grade are: Virginia State College, Petersburg and Norfolk; The Technical Institute of the College of William and Mary and V.P.I., Norfolk; St. Paul's Polytechnic Institute, Lawrenceville (facilities made available through Brunswick County School Board).

2. Programs for the training of practical nurses are being operated on an all day basis at Norfolk City, Prince William County, Richmond, Tazewell, and on an evening extension basis at Alexandria, Danville, Newport News, Norfolk and Richmond.

3. The State Apprenticeship Law requires State and local boards responsible for vocational education to provide related training for all apprentices. This is being accomplished in the regular trade extension courses and in classes set up in cooperation with the Veterans Administration.

4. New programs conducted during the year:

- a. Short Courses on a State-Wide Basis:
- (1) At Crewe, Virginia, a thirty-two hour course was conducted for foremen, linemen, helpers, metermen and technicians employed by the several R.E.A. Cooperatives. Several manufacturers and distributors provided

- equipment and assisted with instruction. One hundred twenty men attended the course.
- (2) At the State Police Headquarters in Chesterfield County, a two weeks course was conducted by the several counties and cities. Personnel of the Richmond Police Department, the Federal Bureau of Investigation, United States Secret Service, the Virginia Penitentiary, University of Richmond, the Virginia State Toxicology Service, the Arson Section of the State Corporation Commission, and the Virginia Courts assisted with instruction. Sixty-five men attended the course.
- (3) At Roanoke, Virginia, one hundred and thirty firemen from the State attended a State Fireman's School which was in session for forty hours. Personnel from the State Fire Chiefs Association and the League of Virginia Municipalities assisted with instruction.
- (4) Regional Schools for the training of school custodians and maintenance men, lasting for twenty hours each, were conducted at Newport News, Richmond, Norfolk, Wytheville, and Lynchburg. Personnel from manufacturers and distributors of heating equipment, plumbing fixtures, various kinds of flooring materials, and materials for the maintenance and care of floors assisted with instruction. A total of 698 custodians completed the courses while many others including principals, superintendents, and interested citizens and town officials, attended the courses for varying lengths of time.
- (5) State-Wide Meetings of the Diversified Occupations Clubs were held at Brookville High School and Phoenix High School, Hampton. Ninety-two persons, including seventy-three delegates attended the Brookville Meeting and sixty-eight persons, including fifty-seven student delegates attended the Hampton Meeting.
- (6) Two State-Wide Conferences and Work Shops for the Coordinators of the Diversified Occupations Program were held in Richmond at the Richmond Professional Institute, one in August 1949 and one in June 1950. Thirty-three persons attended each of these conferences.

(7) The City and Town Managers gathered at Natural Bridge for a two-day institute in April which was attended by 107 persons, including a few from surrounding states. Attention was directed to the current problems of municipal management through the conference method.

(8) A three-day course for water and sewage works operators throughout the State was held at the Virginia Polytechnic Institute in Blacksburg, in June, with a total attendance of 135. While this school was planned largely by the State Department of Health and the State Water Control Board, the Assistant State Supervisor of Trade and Industrial Education, in charge of Public Service training, assisted in planning the school and its operation.

(9) A two-day institute for fire chiefs from all sections of Virginia was held at Farmville, August 15th and 16th. The total attendance was sixty-seven.

(10) A two-day institute for police chiefs and town sergeants was held at Roanoke, October 13th and 14th, with a total attendance of 130.

(11) A two-day institute for building, plumbing and electrical inspectors was held at Roanoke, October 10th and 11th, with a total attendance of thirty-one. Programs for this institute, as well as the other institutes enumerated above, were carefully planned and were carried out with both lectures and conferences.

b. Expansion of the Regular Trade and Industrial Program:

During the year new programs in Diversified Occupations were in operation at Bassett, Hampton, Newport News, and Vinton. New industrial arts programs were in operation in Augusta County, Henry County, Fairfax County, Martinsville, Norfolk, Orange, Pittsylvania County, Princess Anne County, and Warick County. A technical institute program for high school graduates was in operation in the Virginia Mechanics Institute in Richmond, and a similar technical course for the training of engineering and architect-

ural draftsmen was in operation in the Richmond Professional Institute.

5. Instructor Training and Coordinator Training:

- a. A three-weeks program for the training of coordinators was established at the Virginia State College.
 - b. Teacher training courses were conducted at Petersburg, Norfolk County, Norfolk City, Wise County, and Augusta County.
 - c. Eight Industrial Education Teachers Clubs were in operation during the year. The Blue Ridge Club met at Danville, Lynchburg, and Roanoke; the Central Virginia Club met at Fishersville, Charlottesville, and Waynesboro; the Southside Club met at Petersburg and Hopewell; the Peninsula Club met at Fairfax, Prince William County, and Alexandria; the Richmond Area Club met at Fredericksburg and Richmond; and the South Western Virginia Club met at Abingdon.
6. The Trade and Industrial Service is held responsible for organizing, supervising, related and supplementary instruction for veterans who are in on-the-job training in trade and industrial pursuits (and in correlating this instruction with job experiences). During the year, 3,672 such veterans were in classes taught in 93 schools operated by the local school divisions. Fourteen part-time supervisors employed by the veterans training service and two full-time men employed by the trade and industrial service, together with the local directors of vocational education and the 163 instructors of classes did a very satisfactory job in correlating the classroom instruction with job experiences.³

According to B.H. Van Oot, Supervisor of Trade and Industrial Education, the further development of the

3 Annual Report of the Superintendent of Public Instruction, op. cit., pp. 145-147.

program calls for the following:

1. Assisting local communities to build institutes and area trade schools.
2. Improving the quality of instruction in technical institutes so that the graduates of such schools will be qualified to accept technical jobs in industry and business.
3. Expanding the technical instruction of girls and women especially in the field of practical nursing.
4. Providing trade extension instruction for employed workers, especially apprentices.
5. Employment of an additional Assistant State Supervisor to take charge of the Apprentice Program.

The demand for vocational education during the past ten years has followed four distinct trends.⁴ The first trend is for day trade classes in which high school boys and girls can prepare themselves for some specific trade or industrial pursuit. The second trend is for general shop instruction in which high school and junior high school students can acquaint themselves with industrial processes and give expression to their mechanical and scientific aptitudes and to learn about the properties and uses of materials of industry. The third trend is for part-time cooperative education in which high school boys and girls spend half of each day in school and the other half working

⁴ ibid., p. 148

at some vocation of their choice. The fourth trend is for trade extension (evening) classes to provide related and supplementary training for employed persons and apprentices.

Special emphasis is given to the latter trend in Chapter VI of this investigation where its particular development in a unique program is described.

The demand for trade and industrial education in Virginia, during the past decade, has been occasioned by:⁵

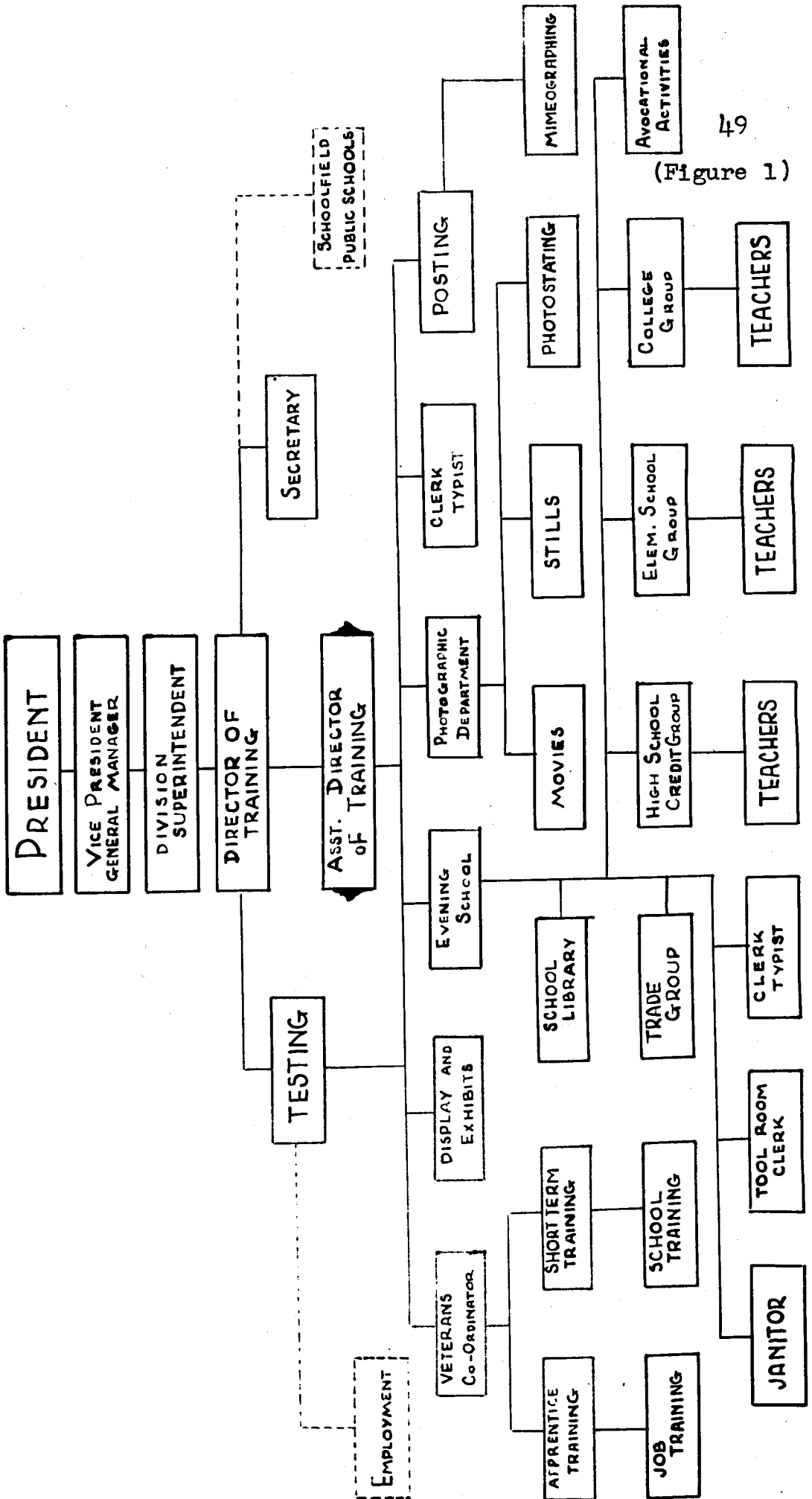
1. Unemployed persons who desired short intensive training in order that they might accept jobs that were available to them immediately upon the completion of their training period;
2. New industries that moved into the State and located in communities where there was not a sufficient number of skilled workers and desired to employ local people rather than import workers from outside the State;
3. Old industries that increased the capacity of their plants and wished to fill the jobs thus created by employing local people.
4. Employed and temporarily unemployed men who desired to keep abreast with changing conditions in their trade or vocation, and thus demanded instruction in the science and technology of their respective vocations, or to learn new operations.
5. Young people who had decided not to complete the regular high school course but preferred instruction in the trades.
6. Industries that desired to increase the efficiency of their establishments by having their foremen and other executives receive instruction in the numerous responsibilities of foremen such as accident prevention, elimination of waste, increasing quality and quantity of

⁵ From the files of the Division of Trade and Industrial Education.

production, job analysis, instructing workers,
production control, records, etc.

The following chapter attempts to demonstrate how
such demands are being met through the cooperation of
State and industry.

TRAINING DEPARTMENT
ORGANIZATION ANALYSIS CHART
 Dan River Mills, Inc.
 SCHOOLFIELD DIVISION



49
 (Figure 1)

CHAPTER VI

THE DAN RIVER MILLS PROGRAM

The Dan River Textile Mills are located in the City of Danville, in southwestern Virginia, a community of approximately 50,000 persons.¹

A unique program in adult education is being sponsored there by the mills in cooperation with State and Federal agencies. This program is unusual in its varied educational offerings, a large portion of which is concerned with improving the general educational level of the surrounding community as well as training for specific job tasks within the industry. This educational experiment is further of special interest in that it represents an advancement in the general procedures of vocational training.

An organizational analysis of the program is seen in Figure 1.

The program is divided into seven units: (1) the adult evening school, (2) the evening or part-time trade extension, (3) the vestibule or training preparatory school for learners, (4) the supervisory training program, (5) the apprenticeship training program, (6) the commercial

¹ 1950 census figure published in the Richmond News Leader (Richmond, Virginia) Friday, March 2, 1951. (This figure includes the Community of Schoolfield, where the major plant is located, recently annexed by the City of Danville).

training program, and (7) the avocational or elective program. These units will be described in detail.

The evening school program is divided into two distinct categories: namely, adult evening school and evening trade extension. The former, a recent innovation in programs of industrial training, has an interesting legend regarding its origin. This concerns a purported conversation between Arthur Brown of the mill's training department staff and R.E. Henderson, a top production official, at which time they were discussing operational procedure:

"The reason we're not getting anywhere with breaking in new employees," Brown said, "is that so many of these people can't read and write."

Henderson then gave carte blanche authority for a program to meet these needs and the adult evening school was born.

The more reasonable version, however, traces the program's origin from what was formerly a trade school for mill employees; and which, as a part of its program, taught some fundamentals of reading and writing.

Actually the evening school program was inaugurated in the fall of 1946, with the cooperation of State and county school systems and the training department of Dan River Mills, to offer an opportunity to those who

thought formal learning "off limits to persons over twenty years of age."

First conceived of as a school to teach mill employees the 3 R's the project has grown to its present establishment on three levels: elementary, high school, and college.

The public school classes, conducted in the Schoolfield High School, are designed for those persons who for one reason or another did not have an opportunity to complete their high school work or receive their elementary certificates. These classes are open to all members of the community as well as to employees of the mill.

Many persons, in applying for these courses, have found that as a result of past educational experience, listening to the radio, reading newspapers, magazines, books, etc., their present knowledge far exceeds the point at which they actually left school. In order to enable persons to receive full benefit for this "acquired" knowledge, a battery of four objective tests are given which cover the fields of social science, natural science, mathematics, and English. The test results serve as an important factor in the grade placement of the prospective student.

The classes are set up in seventy-five hour units. Satisfactory performance and attendance entitles an

individual to the full high school credit designated by the State Department of Education for the particular class. Each class meets two and one-half hours at a time, two evenings a week, for a period of fifteen weeks.² The school year consists of spring, summer, and fall semesters.

Courses in English, mathematics, history, civics, science, etc., are offered on the high school level as well as instruction in the basic reading skills and other necessary items on the elementary school level. Classes on the elementary school level begin at grade one and continue through the entire elementary program, enabling those persons who have had little educational opportunity in their early years to complete this work and through an elementary school certificate qualify for the high school program. These classes are usually set up in forty-hour units, and the tuition pays one-half of the teachers' salaries, the State paying the other half. Elective courses also are part of the curriculum. Classes in woodworking, sewing, clay modeling, comptometer calculations, typing, shorthand, and designing serve to give the student the same opportunities offered to those in the regular public schools. These classes are set up in

² Each class in order to continue must, by State standards, enroll and maintain at least twenty students.

forty-hour units, and in most cases, the tuition pays one-half of the teachers' salaries with the State paying the other half.

The financing of these courses is accomplished through State and local funds. The State matches the local funds on a fifty-fifty basis. The local fifty per cent of the cost is supplied through a tuition fee of five cents per hour of instruction. The student must also furnish his textbooks.

Teachers for the elementary and high school classes are generally furnished by the local public schools. The light and heat for the high school building is supplied by the county.

The number who are taking advantage of this opportunity to complete their high school education is steadily increasing (six in 1946, ten in 1947, forty-four in 1948, twenty-nine in 1949, thirty-five in 1950, and thirty-seven in 1951, received their high school diplomas). The average age for these six periods was thirty-one years.

A definitive breakdown of the courses offered in the adult evening school during the spring term of 1951 follows:

ACADEMIC COURSES

Reading: The student is taught to improve his reading ability by reading a variety of articles.

Writing: The student practices the alphabet, the

writing of his name and various sentences weekly.

Spelling: The student is given words he is most likely to need to assist him in adding words to his vocabulary in such a way as to enable him to spell correctly, pronounce properly and use his words accurately. He also learns the definitions of these words.

Arithmetic: The student is taught the mechanical processes of addition, subtraction, and division of whole numbers and their use in everyday life. When he is far enough advanced, decimals and their use are stressed. He learns to add, subtract, multiply, and divide fractions. Percentages, interest, discounts, and commissions are taken up. He studies areas, measures, etc., and how to find square root.

English: The work is composed of basic grammar; that is, the kinds of sentences, rules of punctuation, rules of capitalization, subjects and predicates, parts of speech, kinds of sentences according to structure, and how to write a good business letter.

These classes are composed of persons whose formal education has been limited. Their educational levels range from the first through the sixth grades, although most of them have advanced on their own accord. Each student's work is arranged to fall in line with his ability thus preparing the student for seventh grade mathematics or some phase of high school training. The term of each class is forty hours.

Seventh Grade Arithmetic: Seventh grade arithmetic presents, on an adult level, the following coverage: a general review of the basic manipulations of the whole numbers; addition, subtraction, multiplication, and division. Next fractions are covered. Decimals and their relationship to fractions are explained.

Percentages, their calculations and their uses in discounts, interest rates, and commissions are next discussed. The various types of graphs are considered: bar, line, circle, and pictograph.

Plane Geometry: Plane geometry presents the study of various common figures such as triangles, rectangles, quadrilaterals, circles, and the like. This course emphasizes logical thinking and the methods and approaches to correct step-by-step solutions of various problems. The term of this class is eighty hours, giving one high school credit.

Ninth Grade English: The purpose of this course is to help students of ninth grade level speak and write better English. Those topics studied include the parts of speech, sentence structure, verb tense, clauses and phrases, punctuation, letter writing and composition.

Sophomore English: The purpose of this course is to help students of the sophomore level speak and write better English. Those topics studied include the parts of speech, sentence structure, verb tense, clauses and phrases, punctuation, letter writing and composition.

Junior-Senior English: The course in Junior and Senior English begins with the study of grammar, including sentence structure and classification and parts of speech, verbs and verbals, modifiers and connectives, phrases and clauses, capitalization, punctuation, and word study. These are followed with letter writing, business report writing and composition. Instruction in the use of the dictionary and the library is given. Included in the course also is the study of composition, and also the study of English literature, with the seniors putting more stress on the latter. In English literature, the student studies the best works of the poets in the classical and romantic periods, including a background analysis of the ages. The term of these English courses is eighty hours, giving one high school credit, except the Junior-Senior English course the term of which is 160 hours, giving two high school credits.

American History: This course begins with the discovery of America and covers generally the

development of the United States up to the days immediately preceding World War II, the vital periods: The Revolution, organizing the new government, the Monroe Doctrine, the Civil War and reconstruction, development of the West, the industrial revolution, World War I, the period between World War I and II. All these are discussed in some detail with particular emphasis on the effects they are having on present day life. The term of this course is eighty hours, giving one high school credit.

General Chemistry: This course is primarily experimental in nature. The physical and chemical properties of various common elements and compounds are examined and studied. The effects of heat, electricity and pressure are investigated and the synthesis and decomposition of various chemical substances are observed. The student is required to perform some experiments himself and the scientific method of approach to problems and reporting techniques are stressed. The term of this course is eighty hours, giving one high school credit.

General Science: General science is designed to fit the needs of those attending the class. It is not a course of chemistry and physics but is a cross section of many fields of science. Application rather than theory is stressed in order to appeal to the interest of people approaching maturity as well as those more matured persons. The treatment of the subject matter is simple and concrete, and is extensive rather than intensive. This term is eighty hours, giving one high school credit.

American Government: The course in American Government embraces a study of this country's government, the history of this government's constitution, a comparison of our government with the government of other countries and a study of United States governmental departments with emphasis on the operation of department units. This term is eighty hours, giving one high school credit.

Basic Mathematics: This course covers the fundamentals of arithmetic, reading, writing of large numbers, . converting denominate numbers to different units by use

of a medium, fractions and their uses, decimal fractions, percentages, geometric shapes and positions of objects, measuring lengths, scale drawing, interpretation of maps and charts, solving problems on the circle, measuring of angles, solving triangle problems, working out areas and volumes of geometric objects, discussion of symmetry, congruency, equality, and similarity in relation to geometry, solving problems in algebra and discussing and using logarithms. Examples and theory are based as much as possible on problems one will encounter in his everyday work and many sketches and diagrams are used to illustrate these examples. The term is eighty hours, giving one high school credit.

Algebra: This basic course in algebra begins with an examination of formulae, their definition, derivation and utilization. Since these are primarily algebraic expressions, their use as equations is explained. Solving equations by multiplication, division, addition, and subtraction are covered. The meaning and use of positive and negative numbers are considered. Factoring and special products of monomials and polynomials, as well as fractional equations, are explained. The course concludes with a discussion of multiple equations embracing two unknowns. The term is eighty hours, giving one high school credit.

High School Subjects for Second Shift Employees: The second shift high school subjects are taught under the Nebraska System of Self-Study. Due to the diversification of subjects taught and the small number of students in each class group, this system allows individual progress and individual attention at any point in the curriculum. The range of subjects is broad embracing: English, United States Government, science, algebra, history, and the like. Courses thus pursued under an accredited instructor are fully valid toward a high school diploma.

Biology: The high school course in Biology is an introduction to the study of living organisms: their environments, structures, and adaptations. The course commences with a study of unicellular organisms and proceeds through the study of more complex phyla: insects, jellyfish, worms, reptiles, and finally mammals. Microscopic slides and laboratory work

supplement the the theoretical approach in this course. The term of this course is eighty hours, giving one high school credit.

AVOCATIONAL COURSES

Woodworking: This class which is avocational in nature and is designed to give instruction in general woodwork, gives the student instruction in the use of hand and machine woodworking tools and the construction of various wood joints and methods of fastening. Proper methods of finishing the completed product are stressed in this course. The students usually make some type of furniture for the home. This term is forty hours, giving one-half of a high school credit.

Sewing: This course is mostly individual work. Each lesson emphasizes "learning by doing." Concerning the sewing machine, each student learns how to operate and care for it. Also the student learns how to use the attachments. With regard to fabric and pattern, the student learns to choose the right pattern and material, to alter the pattern to fit the person, and to follow the cut and sew guide with the pattern. Sewing for the home is also included, emphasizing the making of slipcovers, drapes, and curtains.

Clay Ceramics: Clay modeling is an avocational course for persons who are not directly interested in mill functions and processes. The families of workers can profit from this class by learning to make objects of decorative value for their homes. Clay is the medium for this class and is formed into figurines, dishes, flowers, animals, and many other forms. The figures are then decorated and fired to make them usable in the home. The term for this course and the sewing class is each forty hours. The sewing class affords one-half of a high school credit.

A recent graduate of the evening school, Miss Lea Golson, the oldest person ever to receive a high school diploma in Virginia, serves to exemplify the vitality of the program.³

³ Feature story in The Bee (Danville, Virginia) Friday, May 28, 1948.

Enrolling at the age of sixty-four in the adult evening school classes in the fall of 1946, having had previously only a sixth grade education, this woman, through placement tests, was entered on the ninth grade level. By attending summer school, she was able to receive her elementary certificate in August 1947. In May 1948, she received her high school diploma. Miss Golson has served as an employee of the mill for a quarter century.

Not to be outdone by the graduation ceremonies conducted in the regular public schools, the graduates of the adult evening school receive their diplomas and elementary school certificates as the climax of a "senior class" banquet and speeches by officials of the mills and educators. The presentation of class rings further adds to the occasion.

College extension courses, designed for those persons who have a high school diploma, are run to suit demand. These courses, covering the first two years of college work, carry full credit and are sponsored by the University of Virginia and Dan River Mills. The University of Virginia supplies both material and staff.

An example of curriculum offerings, on the college level, is seen in the courses listed as available if sufficient enrollment is attained: Study of Modern Russia,

History of Education, accounting, college mathematics, Marriage and the Family (sociology), English, German, Spanish, and calculus. The tuition funds pay the entire salaries of instructors in this case.

Although the extension program is one of the latest innovations in the evening school program, having been inaugurated in 1948, over one hundred persons have completed the necessary courses and received credit for two years of college work.

Educational opportunities are offered to the negro employees of the mill as well as the colored community in the adult evening school program. Negroes serve only in janitorial capacities in the mill, consequently there is no occasion to meet their educational needs in the trade program. At present courses on the elementary school level are offered to them including literacy education.

As in the white program, the curriculum is expanded when sufficient demand is evidenced.

Specific secretarial and commercial training is offered in the program including courses in stenography, shorthand, Business English, comptometry, typing, and office practice. These courses are usually set up in units of forty hours. Secretarial workers are recruited from among the employees thus affording the opportunity for

advancement into better positions.

A definitive breakdown of the clerical courses offered in the spring term of 1951 follows:

Beginning Shorthand: The subject matter of the course includes the basic fundamentals of shorthand--how shorthand is written, vocabulary, reading, and dictation practices. The Gregg Shorthand Manual is used and its subject matter is completely covered. The Gregg workbook is used as an aid in student's assignments. To complete the course, the student must be able to take dictation at the rate of sixty to eighty words a minute. The term of this course is forty hours.

Intermediate Shorthand: This course is a continuation of the beginning shorthand course. This term is forty hours.

Advanced Shorthand: This is not a refresher course but rather an advanced class for students who have completed the work of the beginning and intermediate classes in a satisfactory manner. To complete this course, the student must be able to take dictation at the rate of 120 words per minute. The Gregg workbook is used as an instructional aid. The term is forty hours. High school credit is given at the completion of three semesters of shorthand.

Comptometer Calculations: The aim of the comptometer calculations class is to make the student a rapid, accurate user of the comptometer. The machine and its abilities are completely discussed. Addition, multiplication, subtraction, and division are taught by the touch system. Fractions, decimals, and discounts are taught and comprehensively studied. In short, the course is designed to teach the student the best way of operating a comptometer. This term is forty hours.

Secretarial Practice: This course in secretarial practice covers the requisite skills and qualifications necessary for a successful secretary. The proper procedure and type of communication used is touched on. Correct filing processes and methods are taught. A comprehensive vocabulary of business terms and uses is presented. Business English, involving proper

spelling, correct punctuation, proper capitalization and good grammar are dealt with. Business arithmetic, with emphasis on accuracy and speed, is the last major unit taught. The Secretarial Handbook by Hutchinson is used as a text. This term is forty hours.

Elementary Typewriting: The class in elementary typewriting is started by introducing the students to the typewriter. They learn the name of the typewriter and the names, locations, and functions of all the parts of the machine essential in the first steps of its operation. With this knowledge as a background, they follow a progressive procedure of learning all the keys of the alphabet, then the numbers. Once they have learned the correct use of the keyboard, it is necessary to perfect its control and increase their writing rate. This is done by using the skill building practices which help them to more effectively use the keyboard and manipulative drills which help them to better understand and adjust the typewriter. Problem typing gives them practice on different kinds of writings, and corrective practices help them find their faults and correct them. At the end of the class, in order to complete the course, the student must be able to type twenty to thirty words per minute. The terms of the secretarial practice and elementary typewriting are forty hours each, however, additional hours of instruction are necessary before some students can qualify for advancement.

Advanced Typing: This class is for those who have had elementary typing, who know the keyboard and basic fundamentals and who want to increase their speed by taking several timed writings at each session. All errors are noted and analyzed and corrective practices used in their elimination. Time is allowed each night for assignments made in the manual. This helps students to increase their skill as they are required to read the instructions as given and follow them out to an acceptable typewritten example as prescribed. Special drills and practices are given in writing letters, tabulating, typing from longhand notes, stencil writing, filling in forms, and any special problems which the student might bring to class. In order to complete this class, students must attain a speed of from thirty to forty more words per minute.

The evening trade extension, established prior to 1946, is subdivided into related trade courses and related mathematics and science.

Through an arrangement with the Virginia State Department of Trade and Industrial Education, the Danville Public School System, and the Pittsylvania County Board of Education, all types of vocational education classes are offered each year, during two school terms. Each term lasts ten weeks with the fall term starting around October first and the spring term, February first.⁴ Classes are arranged to meet twice a week for two hours per meeting--making each course forty hours. In order to provide the same opportunities to persons working on the second shift or night shift, duplicate classes are scheduled in the afternoon or morning. For a student to receive credit for attending one of these classes, he must attend regularly for at least eighty per cent of the time and, of course, perform satisfactorily while attending.

State unit cards or "diplomas" are awarded each student or trainee by the Virginia State Trade and Industrial Division of the State Department of Education with the completion of two classes (forty hour sessions) in one subject with related work.

⁴ Each class must maintain an enrollment of fifteen.

These diplomas demonstrate that the student has met the State requirements and by State standards is fully qualified in a given textile operation.

Financing these courses is accomplished through one-third federal funds secured under the Smith-Hughes and George-Deen Acts, one-third from State funds which must match the Federal grant, and one-third from local funds. The local funds are secured from a tuition fee per class of two dollars for the ten-week term, or forty hour session, or five cents per hour per student.

The classes are held in various places, namely: the two fully equipped textile schools which the company maintains for each of its two divisions,⁵ the Danville Technical Institute, and the Schoolfield High School. These facilities, with the exception of the company textile schools, are made possible as the result of the cooperation of State and local boards of education.

The selection of teachers or instructors for the vocational schools is made by the director of training through recommendations offered by department superintendents. All of the textile classes are taught by men employed in the mill who are thoroughly familiar with the

⁵ The second division, whose program is a duplication of the first, is also located in Danville, and is known as the Riverside Division.

fundamentals of the subject to which they have been assigned. Prior to the opening of each school term, all prospective teachers who have not taught before, or who have changed subjects, are required to attend a five week, twenty-hour course in teacher training, taught by a qualified member of the training department. During this period, the prospective teachers are taught some of the fundamentals of instructing and are required to make course and lesson outlines of their respective subjects. After an instructor has completed his teacher training and has been assigned to a scheduled class, he will be compensated at the rate of two dollars an hour for every hour taught. Funds for this purpose are obtained from the State, the Federal Government, and from each student. Each instructor must sign an Affidavit of Loyalty to the United States as required by Federal authorities.

A file is maintained in the training department which contains the entire training record of each student. This file is called the "career file," as it is the record of each man trying to build himself a career at Dan River Mills. His successes and failures are recorded as a permanent record. When a man is being considered for promotion, his training record is copied from the career file to another record from which the personnel director

can ascertain the employee's attendance, work, and training record as a means of making the final decision.

The training department retains a library for the use of students in the evening school classes. Books are also sold, at cost whenever possible, to students of the evening school and all others who may be interested. Special books are ordered upon request and the student enjoys any possible discount. Subscriptions to all types of technical magazines pertaining to the industry are also available and in most cases below the regular retail market price.

Information concerning almost every type of course offered by the leading correspondence schools is available. The textile correspondence courses of the International Correspondence Schools are, of course, emphasized. To stimulate interest in home study the Dan River Mills has an arrangement whereby fifty percent of the enrollment fee will be refunded by the company to an employee who has satisfactorily completed the course and is working with the mill at the time he completes all the necessary requirements.

Supervisory training in some phases can be taken by correspondence. These courses are taken through the La Salle Extension University and include such topics as

foremanship training, industrial management, business law, and accounting. Correspondence courses for mechanics in the various trades are also offered.

The training department maintains a variety of audio-visual aids including the best projection machines available. These include sound and silent movie machines, film slide silent machine and film strip and silent equipment. Teachers are urged to use these aids as much as possible. Source information is kept on films of every type that are available and procurable. Maps, charts, pictures, and photostatic material are also readily available.

The initial training of learners for such job locations as spinning rooms and weave rooms is accomplished through a training school located in one of the company textile school buildings. Utilizing a definite training schedule and qualified instructors, each new "learner" is sent through the training school where he is taught systematically the fundamentals, step by step, of the new job for which he was employed. Each learner remains in the school working a regular eight hour shift, from six to ten days, depending upon the progress of the individual. No attempt is made to secure expert operators within this short period of training. The learners while in the training school are paid the regular new employee learner's

rate and the hourly rate increases according to the prevailing wage scale. After the learners have completed their vestibule training, they are assigned to a production department in the mill. A close follow-up is made on each learner both during the time spent in the training school and after assignment to a job situation. There are instructors in every department who continue to assist these new employees until they have mastered the work elements and can perform an average day's work.

A supervisory training program is offered to recent college graduates newly employed in the mills who have had little or no practical experience in actual business practice. The wide margin between business theory, to which most of them have been exposed, and business practice is reduced considerably by the supervisory training.

One of the practical functions of supervisory training is to endeavor to evaluate the possibilities of the trainee and to discover, if possible, the type of work for which he is best suited and which he likes to do. In this sense, the training period not only orients the trainee but affords the management an opportunity to observe him in action, to see in which direction his interests and abilities lie, and to see how he adapts himself. At the conclusion of his training he is then placed in a position

consistent with the facts, as far as it is possible or practical to do so.

Generally the period during which a college graduate is on a trainee status lasts from a year to two years, depending on the individual and job vacancies. Normally each trainee is permitted to work in several departments within the mills before finally being assigned permanently or taken off the trainee status. However, during this training period, each trainee is sent through an extensive ten-weeks training program and is given an opportunity to look into most of the activities in the textile and service fields in the mills. The trainees work for a period at a variety of jobs to acquaint them with some of the production, maintenance, and service operations. The purpose of such a program is twofold: first, to give each new trainee an opportunity to decide what kind of work he would prefer as a permanent assignment; second, to learn each new trainee's particular aptitudes and how they can be utilized in a permanent work assignment.

Some of the courses included in the supervisory program are as follows: human relations, labor analysis and cost control, labor relations, human problems of supervision, conference leading, teacher training, public speaking, job evaluation, graphic analysis, and supervisory

orientation.

The veteran's supervisory training program is open to honorably discharged veterans of World War II. It has been approved by the Veterans Administration and as such the veteran trainee receives benefits under Public Law Sixteen and the "G.I. Bill of Rights." To be eligible for this training, a veteran must have a high school diploma or its equivalent. This course has a maximum period of two years, during which time the trainee is given an opportunity to perform all of the functions of a second hand, lowest supervisory grade, and to learn how to operate most of the machines of the department to which he is assigned. In this two year period and usually after a year's training, a trainee may be taken off this program and assigned a regular supervisory job. While in training, the trainee is required to attend classes in related work such as labor relations, mathematics, slide rule calculations, and textile fixing classes.

The apprenticeship training program offered by the mills was planned and developed in cooperation with the Division of Apprenticeship Training, State Department of Labor and Industry, and the Division of Trade and Industrial Education, Richmond, Virginia, and includes apprentice training in loom maintenance, electricity,

plumbing, machinist trade, sheet metal, pipefitting, spinning maintenance, card grinding, dress room maintenance, and drawing and roving maintenance. The apprentice receives instruction and experience in all branches of the trade of his choice which are necessary to develop a practical and skilled craftsman, thoroughly familiar with the theory and practices of the trade.

The apprenticeship program as it relates to the veteran of World War II and other employees is administered by a committee known as the Joint Apprenticeship Committee. This committee is composed of six members, three from management and three from labor. This group meets periodically to review applications for apprenticeship training, administer tests to apprentices and interpret the regulations of the Apprenticeship Act as it applies to the local situation. The committee has the power to place an individual in or remove him from apprenticeship. A coordinator of apprenticeship training is retained to carry out the practices of this program as designated by the Apprenticeship Committee and the Veterans Administration. The coordinator's salary is paid by the Virginia State Department of Vocational Education.

Various forms of tests are used by the training department to supplement interviews, physical examinations and

other methods of determining an employee's competence.

The purpose of the testing service is to aid, through psychological tests, in the selection of new personnel, to select persons among those presently employed who will profit most by further training, to construct and validate tests for the selection indicated above, and to administer grade placement tests for the adult evening school.

Different test batteries are given to the following levels of employees: production workers, clerical employees, production workers, clerical employees, production supervisory personnel, apprentices, and technicians.

The tests for production workers include: eye and color tests to establish visual acuity and color perception, (near normal vision is required for inspectors, whereas the standard for card tenders and the like is lower) dexterity testing, administered to all spinning and doffing learners assigned to the vestibule school, in order to eliminate misfits before they begin training, mental tests to establish intelligence level, (these are recorded tests which minimize the influence of formal learning or schooling) interview to determine general appearance and bearing, general estimate of intelligence, number and kind of previous jobs, and general sense of moral

responsibility.

Clerical workers receive a mental or qualifying aptitude test and an eye test. The validations correlating test results with success on the job ratings have proved high enough to justify limiting this battery to the mental and eye test alone.

Tests for production supervisory personnel include: trade test in textile manufacturing and nomenclature to determine general knowledge of the field, (these applicants are usually in their thirties or forties and have had previous textile experience) standard mental test administered after applicant has passed trade test, to predict whether or not the individual is capable of comprehending the cost control system, knowledge of physical phenomena test to indicate awareness, and a non-verbal test to determine visual perception.

Apprenticeship tests include: mental, non-verbal, knowledge of physical phenomena, mechanical aptitude, spatial relations, hand and eye coordination, and interview impression. This battery reveals general competence and ability of the applicant to absorb the apprenticeship training material in the classroom, on the job, and by correspondence courses during the two or four year period. All of these tests are weighted in a composite rating.

Table IV-- Enrollments and Completions of Courses for
Employees of Dan River Mills, 1944-1951.*

Term	Number Enrolled	Number Completing
1944	167	
1945	420	
1946	875	687
1947	980	787
1948	1038	801
1949	1396	1256
1950	2103	1714
1951	1072	(One-half term)
Totals	8051	5245

* The information for this table was furnished by the
Training Department of Dan River Mills

Attitude toward work is also tested by assigning applicant to a production job for a month or so and then, only after successful completion of this work, submitting his apprenticeship application to the Joint Apprenticeship Committee for consideration.

The testing service acts as a coordinating agency in the training program and seeks to improve methods and techniques of training through test results.

The number of persons who have enrolled in the training program since its inception on the vocational level in 1944 and who have completed training is seen in Table IV.

As seen in the listing, 8,051 persons have been enrolled in the training program and 5,242 persons have completed entirely the courses which they began. Thus approximately sixty-five per cent of those who have taken training have completed their work.

Considering the many distractions of modern living as well as the family and civic obligations on the part of the average individual, and the fact that training is taken, for the most part, in one's leisure time, the number of successful trainees seems, indeed, indicative of a successful program.

CHAPTER VII

SUMMARY AND CONCLUSIONS

An analysis of the program of adult education, as described in this study, reveals two important concepts: (1) the extension of the whole educational system to include all people of all ages and classes who have left formal schooling; and (2) an increasing emphasis on new values--social, civic, spiritual, and cultural. These concepts are based upon the complete development of personality, on the theory of continuous growth, on the demonstrated ability of adults in formal learning, and on the democratic principle of universality of opportunity. These concepts provide for the needs of the illiterate, for those who need vocational training, for the professionally stagnant, for the inert or misguided, for the specialist, and for all who are urged by any desire or need-- social, cultural, spiritual, or economic. The emphasis on new values implies that these may permeate all educative processes and fill the leisure hours with cultural activities. The complete development of personality means that a program of education should be as broad as human needs.

The program in this country has been carried on by a wide variety of agencies, for a variety of purposes, and with many different kinds of people. For this reason, some

Critics have called it formless and without direction. Actually it has penetrated into more phases of life in America than in any other country. It has expressed the complexity and vitality of American life.

The concept of adult education adopted in this study, as a result of much study in the field, does not exclude the vocational function from the meaning of adult education, although some thinkers in the field do sanction its exclusion.

Mr. E.C. Lindeman, an American leader in the field of adult education, in his book, The Meaning of Adult Education, says that adult education begins where vocational education ends.¹

In England the term presupposes the rudiments of learning and excludes professional and vocational education.

To exclude the particular area of vocational education from the general area of adult education would not be in keeping with the development in America. Indeed, the inclusion of an academic or cultural program in the part-time general continuation classes, provided for in the Federal vocational program, gives emphasis to this concept.

¹ Edward C. Lindeman, The Meaning of Adult Education (New York: New Republic, Incorporated, 1926), p. 194-195.

Further the program at Dan River Mills gives ample evidence of the inclusion of an academic or cultural area.

In trying to answer the question, "What is adult education in America?" Mr. Morse A. Cartwright, former Executive Secretary of the American Association of Adult Education, says:

I think it will be sufficient to describe it as a continuing process through life....I have spent many futile hours with committees of educators, including college presidents and learned professors, attempting to define adult education. They have failed to evolve a formula, I am glad to say....²

It is true that the programs of adult and vocational education as organized in the Virginia State Department of Education are separate and distinct units. However, this is the result of administrative convenience. Both departments work interchangeably.

Thus it is seen that to separate by definition or theory the areas of adult and vocational education is an approach not indicative of the progress of adult education in America. For, indeed, this progress emphasizes the conclusion that all learning is in some respect "vocational."

² Morse A. Cartwright, op. cit., p. 4.

The experiments with and records of adults have proved that the ability of adults in formal learning is a practical reality, and that normal adults are not deterred from learning by lack of ability but by lack of opportunity, incentive or interest; or by timidity, lack of confidence or fear of ridicule. The record of Miss Lea Golson, described in Chapter VI, although a single example, adds further credence to the fact. Further the fact that the upper age limit stipulated for training under the Federal vocational acts is seventy years,³ emphasizes the fact.

Education, in general, within industry has been organized along lines which attempt to bring the widest possible educational offerings to workers. Increasingly the cultural needs of the working individual are being given emphasis.

Greater emphasis needs to be placed upon the education of women workers who are coming in great numbers to the doors of industry. The existing situation calls for an expanded program to meet their individual needs.

The review of the development of trade and industrial education (a particular area of adult education)

3 Prosser, Charles A., loc. cit.

in America and in Virginia, particularly, demonstrates that this movement has progressed in two directions-- upward from the masses and downward from men of vision, keenly sensitive to the needs and aspirations of the people, and consecrated to the task of inspiring the desire for education and making opportunities available for those desiring it.

The study of the program in Virginia reveals that the numbers profiting by instruction are unusually large and the facilities for this particular area of education are adequate.

The scope of the work includes beginnings in all lines of development necessary for the needs of the individual and of society. Especially in the training of apprentices, a program begun in 1938, which in 1948 ranked fourth in the nation with 5,500 apprentices being trained,⁴ is the breadth of the program seen. Only the great industrial states of Ohio, Michigan, and Pennsylvania lead the Commonwealth of Virginia.⁵

The facilities for related academic work in the area of training in the technical schools are entirely too

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⁴ Richmond Times Dispatch (Richmond, Virginia), Sunday, February 22, 1948.

⁵ loc. cit.

limited. The addition of courses in practical or functional English would aid the program greatly. Although this area is comparatively new in state programs, educators in the State are urging this adoption.⁶

An examination of the program of studies in the evening schools in trade and industrial education shows that the work is largely limited to the trade manipulative processes, which train the hands, and scientific related subjects which give an intelligent understanding of the trade processes. General subjects have a small place on the program. While the foundation is laid for the introduction of subjects which meet needs other than vocational, very little has been done toward meeting these needs.

The lack of compulsion is an asset rather than a hindrance to the development of adult education, in its truest sense, which should be to humanize business and socialize trade processes. It concerns employer and employee. Compulsory education for the young people of the State would more quickly set up the machinery for education, but life affords ample evidence of the conjecture that desired outcomes are seldom accomplished by compulsion. To bring into being, through voluntary action, a number

⁶ Statement by Vernon Schultz, Principal, Manassas Technical School, Manassas, Virginia.

of schools sufficient for the needs of these young people would be a longer, harder way, perhaps, but the results might justify the method.

An attempt should be made to broaden the existing program to include subjects which meet the social, civic, and spiritual needs of the people. This need is recognized, provision is made for this introduction, and the State would, no doubt, provide further opportunities if funds were available.

A commendable effort at teacher training is being made. An important item in the limited program is the instruction in vocational guidance. Vocational guidance is a phase of education which was early applied in industrial education. It is called vocational guidance, but it includes educational, social, moral, and ethical guidance. The minute divisions of work which have developed in industry make guidance a very necessary part of the program in order to aid the individual in finding the work best suited to his capacities.

In general, the program of trade and industrial education in Virginia is in harmony with the best practices in vocational education in America; it has in it the elements of a constructive program.

There is a steady growth in all phases of the

program. The lack of social and cultural subjects applies to all phases of the work.

The training program at Dan River Mills represents an attempt on the part of management to cooperate with the individual worker in raising his earning power. The opportunity to advance to a higher pay grade is open to any worker who desires to enroll in one of the various trade classes. Further, an opportunity to become generally better informed is offered in the adult evening school.

The active participation in the three levels of the adult evening school (approximately 200 persons have received high school diplomas or credit for two years of college work, since the program's inception in 1946) serves as ample proof of the growing desire on the part of workers for more studies of a liberal nature.

The security of the surrounding community depends upon the mills. Actually, the standard of living of approximately 15,000 employees and their families as well as that of most local businessmen, whose stores and shops depend on the patronage of mill families, are vitally affected. Thus the interaction between the community and its supporting industry becomes the common interest.

Successful cooperation between industry and the public educational facilities is illustrated in the Dan

River project. There is a clear division of work; and each institution has confined itself to that type of work which it can do best. This well organized and integrated program is doing much in meeting the needs of the community and the individual worker.

The evening school program is operated on the belief that an intelligent worker is a superior worker; and that a well informed citizen is better prepared to serve his community. The interaction here is immediately evident. As a superior worker, the employee is better able to serve industry in improving production and hence profit for management. Further he is better able to reach his own economic goals as a result of increased earnings through increased profits. And finally through both agencies (management and the worker) the community receives benefit.

The belief in the intelligent worker as an "industrial asset" is well on its way to receiving general acceptance. In the not too distant past little concern was given to the intellectual abilities of workers. However, with the rapid advancements in science and the consequent need for understanding the increased complexity of mechanical operation and procedure, this value has finally received paramount consideration in industry.

Further the institution of cost control and the necessity of related training has made the alert and intelligent worker a necessity.

The further significance of the "intelligent worker" as well as the academic program offered as a part of industrial training is illustrated in Dan River Mill's program of related training. For those who do not desire formal work in the adult evening school, job related mathematics, cost control, English, labor relations, psychology, accident cost control, etc., are offered. These courses are required for those engaged in supervisory capacities.

No longer are such programs as the one described in this investigation limited to large industrial organizations. Facilities of local school boards, services of state departments of vocational and adult education, and the Federal government should make the expenses involved comparatively small. Following the philosophy that "few persons appreciate anything that is given to them for nothing," the Dan River project instituted the tuition system which serves to furnish the local funds usually required by the State Department of Education. The tuition fee of two dollars for a ten-weeks term or forty hour session or five cents per hour per student and the remaining costs

being borne by the State and the Federal government served to make the program feasible.

The project described emphasizes the ability of adults to learn and gives support to the concept that age alone will not suffice to mark off the limits of those engaged in the program of adult education.

Adult education within industry, as exemplified by the Dan River project, gives support to the ideals of adult education offered in this study, and comes to mean an educative process, organized with a learning purpose, through which an individual beyond the concern of the public schools, capable of determining his own needs, can acquire information, attitudes and skills, that will aid him in finding the meanings in the whole of life.

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