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CHARLES A. BENNETT: AMERICAN
PIONEER OF INDUSTRIAL EDUCATION

by
Robert H. Gilpin


Submitted Under
Plan B in Partial Fulfillment
of the Requirements for the Degree,
Master of Science in Education

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CHARLES A. BENNETT: AMERICAN
PIONEER OF INDUSTRIAL EDUCATION

INTRODUCTION

Charles Alpheus Bennett was one of the most active leaders among the pioneers of American education. He carried on the great pioneering work of establishing the field of industrial arts as a necessary part of general education, and he made many literary contributions to education which will long stand to guide others in their efforts. His philosophies concerning industrial arts are based on sound principles, and as a result, many of his ideas are still used today in our modern schools. Mr. Bennett was a man of "first", and throughout his active, untiring, and industrious life he set the precedence for major advancements in the field of industrial arts--especially in the United States.

The purpose of this paper is to discuss and relate those major advancements which Mr. Bennett made in the field of Industrial Education, and to interpret his techniques and philosophies to modern education. I think I should begin by discussing his life as it developed into a great pioneer of industrial education.

EARLY EDUCATION

Charles Alpheus Bennett was born on a farm near Holden, Massachusetts on March 28, 1864, and died at his home in Peoria, Illinois on June 17, 1942, in his seventy-ninth year.

Mr. Bennett was graduated from Worcester Polytechnic Institute, Worcester, Massachusetts, in 1886, where he received instruction in the Washburn Shop, and then worked as a machinist at Brown and Sharpe Manufacturing Company, Providence, Rhode Island.

SAINT PAUL MANUAL TRAINING SCHOOL

In 1887, as a young man, a graduate of Worcester Polytechnic Institute, and with several months of experience as a machinist and draftsman, Mr. Bennett was invited to Minnesota where for four years he assisted in planning, organizing and administering the Saint Paul Manual Training School for boys of the eighth, ninth and tenth grades. Only six such schools had been started in the United States: St. Louis, 1880; Chicago, 1884; Baltimore, 1884; Philadelphia, 1885; Toledo, 1885; Cincinnati, 1886; and only three of these were public schools. There were very few persons upon whom to call for advice or assistance, and no one had yet thought of the idea of a college course for the preparation of leaders in industrial and vocational education. The organization of the St. Paul school differed from the others in significant particulars, showing originality of

concept, keen analysis of conditions and problems, and constructive vision and planning. Mr. Bennett therefore, merits a place with Dr. Runkle, Dr. Woodward, Dr. Belfield, and the other pioneers of industrial education in this country.

It was necessary to employ engineering school graduates or to select skilled workers from industry. For both groups there had to be patient coaching in organization of instruction materials, in the methods of teaching, and in understanding how children learn. His engineering training contributed the techniques of planning and organization, and his practical experience at the bench, and with machines and industrial production, gave him a grasp of the content to be learned. "The solving of these and other problems involved in organizing a school of entirely new type, with so few guiding precedents available, was an achievement in educational pioneering of first rank."¹ It was a problem in educational pioneering, and its solution soon attracted the spotlight to a larger field of endeavor.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

In 1891, Mr. Bennett was called to Teachers College, Columbia University, New York. Here another series of distinctive achievements marked his term of service from

1. Thomas T. Bawden, "A Tribute to a Great Leader," Industrial Arts and Vocational Education Magazine, (September, 1942), V. 31, p. 291.

1891 to 1897 at Columbia. He organized the first college department for the training of shop teachers in the United States. Among the achievements at Teachers College, the most notable "first" accomplishments of this period were:

1. For the first time in the United States a two year curriculum for the preparation of special teachers of manual training was organized, thus making it possible for a student to enroll as a "major" in this field. During this period, also, a group of courses were set up for students who wished to elect manual training in meeting the requirements for the Bachelor's degree.

2. For the first time in a curriculum for the preparation of special teachers of manual training the following "professional" courses were developed: History and Principles of Manual Training; Economics of the Planning Equipping, Organization, and Management of Manual-Training Schools; Observation and Practice Teaching.

3. The offering of the first course for graduate credit in the pedagogy of manual training. This occurred in 1896-97, when Mr. Bennett conducted a four hour course in Manual Training in Elementary and Secondary Schools, which was accepted for credit on the requirements for the Master's and Doctor's degrees, as well as for the Bachelor's degree.

4. The planning and equipping of the Macy Manual Arts Building, a four story building, which was the first building of its kind at a teacher-training institution in the United States.

5. In order to meet an evident need the first summer school for teachers at Teachers College, called Summer School of Manual Training and financed by the faculty of the summer school, was held in 1896.

Again we note the evidence of exploration, trail blazing, and the solving of new and original problems, in these aspects of the program at Teachers College, The curriculum there developed and the Manual Arts Building, especially, served many generations of teachers and administrators as models of their kind.

BRADLEY POLYTECHNIC INSTITUTE

In 1897, Mr. Bennett went to Peoria, Illinois, as head of the Department of Manual Arts, and began the most fruitful and constructive period of his career. He was the main technical adviser in the development of another major undertaking, which was again almost without precedent, and called for educational vision of a high order.

His contribution to the organization and development of Bradley Polytechnic Institute was paralleled or accompanied by the founding of the "Industrial Education Magazine" in 1899, the establishment of the Manual Arts Press in 1903,

the opening of the Summer School for Teachers in 1904, the organization of the Illinois Manual Arts Association in 1904, leadership in the re-organization of the Western Arts Association during the period beginning in 1904, and the organization of the Manual Arts Conference in 1909. This is quite a remarkable record in addition to the duties of his post at Bradley Polytechnic Institute, and needless to say these accomplishments attracted considerable attention. This list of significant achievements marks him as one of the most dynamic and productive educational leaders of the past half century.

Bradley Polytechnic Institute, so long as it was permitted to evolve in the direction of the expressed wishes of its founder and donor, made educational history and rendered a unique service. One of the more noteworthy contributions of Bradley Institute, as mentioned before, was the Summer School for Teachers which occurred during the twenty-two years of Mr. Bennett's connection. It was begun in 1904 and followed the same plan of organization as the summer school developed by him at Teachers College. For its service to the cause of manual and industrial education it was frequently compared on favorable terms with the famous Summer School of the South conducted by the University of Tennessee for teachers and administrators in general education.

Planning the curriculums; designing and equipping shops, laboratories, studios, and other facilities for instruction; designing and superintending the construction of buildings; organization of the faculty--these were some of the activities in which he took a leading part, and displayed knowledge and technical skill. His position at Bradley Institute afforded an excellent vantage point from which to observe the existing conditions and needs, to acquire a rapid widening circle of professional acquaintances, and to exercise the qualities of leadership with which he was endowed.

INDUSTRIAL EDUCATION MAGAZINE

Before Mr. Bennett left Columbia University he became aware of some of the special problems of the shop teacher that were not receiving adequate attention. He began thinking about the possibility of a professional journal to aid teachers to a better understanding of the educational significance of their work, and to provide a place where they could express their views. He moved to Illinois before he could formulate or carry out this plan. Shortly after moving to Illinois he discussed the situation with a number of men, and in 1899 he founded the "Manual Training Magazine," later changing the name to "Industrial Education Magazine."

The launching of the magazine, another first in our field, involved a long hard struggle. There were serious

financial problems, as well as editorial and publication problems. Mr. Bennett was able to overcome these obstacles through the help of his friends, and the satisfaction gained from rendering professional service.

In 1939 the magazine was discontinued because of the ill-health of Mr. Bennett. He was reluctant to discontinue the magazine, and he accepted the advice of close friends and decided not to turn it over to someone else to continue. Dr. Homer J. Smith, who was guest editor in 1938-39 made the following comment on this point of view:

"Please assume for me, among your host of friends and admirers, more than common sympathy with your feelings and more than common appreciation of what you have done for the movement, and for old and young men in it, particularly through the Magazine. From my point of view, I would rather the Magazine be discontinued, when you take away your hand, than that any other disposition be made of it. Let it go, and let it stand as your project and half of your life---an extensive and important formal contribution---a sizable, well ordered block of the best literature that we have had--an authentic and respected record, always to be prized." 2

So the magazine will stand, as long as books are preserved and cherished--in libraries of all kinds in the English-speaking world. It contains contributions of a great host of teachers, supervisors, principals, superintendents, professors, citizens and others, in addition to Mr.

2. Thomas T. Bawden, "Charles A. Bennett: A Dynamic and Versatile Leader," Industrial Education Magazine, (November, 1939), V. 41, p. 260.

Bennett's own writings. It is truly a great bit of work of industrial education and related subjects---a monument to the memory of Charles A. Bennett.

Through the work on the magazine, he obtained a great correspondence, which covered the entire United States thoroughly, and most all parts of the world. These acquaintanceships led to the invitation, in 1908, to visit England and the principal countries of continental Europe for an intensive study of industrial and vocational education. From this trip he brought back an immense amount of data in the form of books, bulletins, notes, photographs, and reports. He made extensive use of this material in his two-volume history, in articles in the magazine, in numerous lectures, and in other ways.

THE MANUAL ARTS PRESS

Work on the magazine resulted in the founding of The Manual Arts Press, and helped solve the problem of publishing the magazine. The magazine was published and distributed by the University of Chicago Press, the first three years, but this proved unsatisfactory. So as a result, **The Manual Arts Press**, Peoria, Illinois was organized.

Mr. Bennett made another venture after a few years experience with the magazine. He assembled some teaching aids that had appeared as a series of articles, and published

them in book form. This was a success at once, and led to others of its kind. He encouraged those teachers and supervisors who were doing original things, to write for the magazine. This began the publication of a notable series of magazine discussions, textbooks, and teachers' manuals. Through these means he pioneered the way, along which he was soon joined by others, and with their combined efforts he led in the creation within forty years of an authoritative literature of manual and industrial education.

The most significant aspect of this phase of leadership was the inspiration Mr. Bennett gave teachers and others to put their achievements in writing to aid the common cause. The field of industrial education is indebted to him, for the contributions of a long list of those whom he inspired to productive activity.

ACTIVITIES IN PROFESSIONAL ASSOCIATIONS

In 1904 invitations to a group of men were extended to assemble at Bradley Polytechnic Institute, and to consider setting up an organization that would promote the teaching of shopwork and drafting in the schools. Here the Illinois Manual Arts Association was organized, and it was later to become one of the main parts of the Illinois Vocational Association. The IVA at the time of Mr. Bennett's death held the record for the largest active membership in the American Vocational Association. At the meeting in Peoria, Mr. Bennett

was elected president of the new association.

Mr. Bennett was active in the Western Drawing Teachers Association, which he helped organize at the World's Columbian Exposition in Chicago, in 1893. It was re-organized as the Western Drawing and Manual Training Teachers Association in 1904, and a few years later as the Western Arts Association. During these periods of reorganization, Mr. Bennett served in various official capacities, including president, chairman of the executive council, and chairman of important committees, and in these ways rendered distinctive and constructive service.

Mr. Bennett was one of a limited group of leaders who took the initiative in organizing the Vocational Education Association of the Middle West, which held its first meeting in Chicago, in 1915. As president and as Chairman of many important committees he gave devoted service during these years, as well as in the negotiations which led to the merger, and in the inauguration of the American Vocational Association in 1926. He had a genius for organization, and unsurpassed facility in stimulating the efforts of others.

THE MANUAL ARTS CONFERENCE

Throughout the whole of Mr. Bennett's professional career, a major interest had been improvement in the quality of teaching in the school shop and drafting room, and improvement in the facilities provided for the preparation

of teachers for those lines of work. Nearly every important achievement has been a contribution to these ends, not the least of which was the founding of the Manual Arts Conference of the Mississippi Valley.

A number of significant events occurred during the first decade of this century which served to focus the attention of educators upon the place of industry, and of instruction in shopwork and drawing in public education. Among these events was the establishment in a number of universities and other institutions of higher learning in the Middle West of centers for the preparation of teachers of these subjects. In 1909 the plan was conceived for bringing together the men who, as heads of departments, were chiefly responsible for the development of these teacher-training programs.

Mr. Bennett says that the suggestion came originally from Professor Selvidge, but the latter has insisted that to Mr. Bennett goes the credit for developing the plan, organizing the Conference, and establishing the procedures. The first meeting was held at Bradley in 1909, and the Conference continued under his active direction and leadership for the first six years of its existence. The Mississippi Valley organization is still going strong to this day, and thus gives testimony to Mr. Bennett's far-seeing vision and organizing ability.

HISTORY OF MANUAL AND INDUSTRIAL EDUCATION

Although Mr. Bennett was leading a very busy life, he produced another crowning achievement. He wrote the "History of Manual and Industrial Education," the first volume of which was published in 1926, and the second in 1937. No one else could have written this work, for during this half century no one else had passed through the experiences or possessed the advantages of position, travel, and acquaintanceships which would qualify him for the job.

Three factors may be mentioned in which helps to account for Mr. Bennett's unusual qualifications for this task: "(1). a voluminous correspondence with educational leaders, who were able to keep him informed on the progress of events, and particularly to aid in interpreting the significance of developments; (2). the industrial education tour of Great Britian and the Continent, from which he brought back a wealth of first-hand information and source material; and (3). systematic visits to more than a score of the important libraries of the United States and Europe in search of material bearing on the historical phases of industrial education."

3. Thomas T. Bawden, "A Tribute to a Great Leader," Industrial Arts and Vocational Education Magazine, (September, 1942), V. 31, p. 292.

LEISURE AND THE CREATIVE ARTS

The use of leisure time was one of the popular subjects of discussion during Mr. Bennett's life. He felt that the solution was in hobbies--hobbies in which the schools should and would have a part in developing---music, athletics, literature, dramatics, photography, collecting, and what not, according to taste and opportunities. Anyone who had felt the thrills of experience in industrial arts would realize that skill is important for leisure. Education for leisure, then, is no more the concern of the public librarian and the high school teacher of literature, than it is of the teachers of shopwork, of mechanical drawing, and of art and design. Education for leisure is not wholly or chiefly a matter of adult education; it is a factor in all education, and it involves little that is new in education, unless it be a new philosophy and a new emphasis on the value, the unappreciated value of skill, which is knowledge in action. These were the interpretations of Mr. Bennett regarding industrial arts and leisure time.⁴

Mr. Bennett's foresight on this subject seems to hold true today. Many students have become interested in a certain area of industrial arts, and have used it extensively for a hobby at home. Today more and more

4. Charles A. Bennett, "Leisure and the Creative Arts," Industrial Education Magazine, (March, 1934), V. 36, p. 92.

people have workshops in their home, and many were stimulated through their junior high or high school industrial arts classes. In planning industrial arts laboratories the good ones are now provided with many small power tools, tools which are used around the home, and which the student can gain practice within the school shop.

TEACHING TECHNIQUES

Mr. Bennett felt that teaching was an art, so therefore, the teacher must be an artist. If he is to be a master artist, he must become acquainted with more than one teaching technique and know when and how to use each. The teacher must have before him a vision of what should be accomplished in his pupils. He should know what means are most likely to bring about the desired changes in his pupils, or in each individual pupil. He must know the various possible methods of procedure to bring about such results.⁵

He further stated that it is not enough to say that industrial arts will fulfill the claims made for it. It will not, unless taught by a master teacher--one who knows how to teach as well as how to use tools effectively.⁶ Assuming then that the industrial arts teacher has the ideals, the insight into human nature, the necessary skills, Mr. Bennett set down some of the teaching techniques avail-

5. Charles A. Bennett, "Teaching Techniques," Industrial Education Magazine, (January, 1938), V. 40, p. 32.

6. Ibid., p. 32.

able for teachers use and with which the teacher should be familiar.

Technique 1. "First of all, and the most natural and common of all, is the technique of imitation."⁷ This is still used today in our teaching, and will continue forever it seems. Almost from birth, the child learns to do things chiefly by imitating what he sees others doing. By showing the pupil how to use his arms, his hands, his fingers, or a tool, or how to follow through a process, the teacher takes this easiest and surest way of teaching simple skills. Our method of demonstration as used in modern shops is one way of using the technique of imitation.

Technique 2. "Imitative teaching can be made more effective if accompanied by explanation."⁸

While the teacher of today is showing how to do something, he usually tells why to do it. His teaching is more efficient, provided his explanations harmonize with his actions and are simple and timely. Sometimes, however, imitative teaching is more effective when the teacher is silent, because too much talk distracts attention.

Technique 3. "Building on the imitative foundation, the teacher may proceed toward his goal by requiring each pupil to list the steps of procedure in making or doing."⁹

7. Bennett, "Teaching Techniques," op. cit., p. 32.

8. Bennett, "Teaching Techniques," op. cit., p. 32.

9. Bennett, "Teaching Techniques," op. cit., p. 32.

The term we have coined for our use today is the "plan of procedure," and is still used quite extensively in the construction of projects. Such a list becomes a test of what has been learned from the teachers demonstration. Modern practice usually has the teacher preparing several plans of procedure for the pupil. The next step is a teacher-pupil plan, and then a pupil prepared plan. The last step is a student plan without any checking by the teacher. In this case, the pupil thinks out the steps in the process by himself.

Technique 4. "To use and make working drawings."¹⁰

In connection with the demonstration or at some other time, each pupil learns to read and work from drawings. Instead of receiving merely oral instruction, the student now acquires the power to use and perhaps to make working drawings. The modern teacher is thus making use of another technique as a means of instruction. To telling, he has added the common industrial way of transmitting facts of construction---by the working drawing.

Technique 5. "Teaching through related information."¹¹

The present day industrial arts teacher is sure to make use of this means of teaching. He will give orally or through the printed page, or better by a combination of the two such information as will enrich, but not take the

10. Bennett, "Teaching Techniques," op. cit., p. 32.

11. Bennett, "Teaching Techniques," op. cit., p. 33.

place of the instruction given through the manual work. To experience, the pupil will thus add broader understanding through reading and perhaps through the radio, television, moving pictures, and visits to industry. His mind is led out into science and industry and life. Industrial arts in its various branches is coming to have a vital connection with other branches of schoolwork and with life experiences. Most industrial arts teachers today are teaching the processes, the facts, and the social applications of the arts in their natural relationships to the other school subjects. This procedure would seem to be an important contribution to the teaching of industrial arts in general education.

Technique 6. "The teacher may organize his class to stimulate the factory system of production."¹²

This philosophy of Mr. Bennett's is generally thought to be unsound today. The trend of the modern industrial arts class is to do very little, if any, production work. Vocational training uses this technique in order to relate the class to industry. For a period of time, each pupil does only one part of the construction process. Speed in work, cooperation with other workers, and appreciation of mass production are emphasized in this technique.

Technique 7. "The inventive method, or the creative method."¹³

12. Bennett, "Teaching Techniques," op. cit., p. 33.

13. Bennett, "Teaching Techniques," op. cit., p. 33

To make manual and industrial work integrate more fully with life, including the higher forms of industrial and handicraft production, the modern teacher of industrial arts has available this technique. It has sometimes been called the inventive method, but more recently the creative method. This technique adds one more highly educative means for instruction to the teachers available list. From the pupil standpoint, this means inventing or designing the thing he makes instead of always making something invented or designed or specified in detail by some other person. He does creative thinking and experiences a creative thrill which is something more than the thrill of doing successful what one is told to do. It touches an emotional spring in experience, which merely doing a prescribed job successful cannot release. From the teacher standpoint, the creative technique provides another means of stimulating thought, widening and enriching the experiences of pupils, giving them a new viewpoint, and sometimes discovering talent that would not have appeared while teaching by other methods.

However, this creative method should be reserved for only those students who are ready for it. Students should be given those specific tasks to do which are teacher

selected and teacher planned until such time that he has some skills and knowledge to do with. In other words, the student must be given some marbles to play with, before he can play marbles. Who is in a better position to determine what a pupil should know than the teacher. After all, that's what he was hired for. Modern teachers should use the creative method very wisely, and for industrial arts purposes, it is generally felt students should conform to teacher planning until about the junior or senior year in high school. It is fine for a pupil to select and design a project, but if it has no learning units or tool processes which are right for his development incorporated in it--what good is it!

In these seven teaching techniques, Mr. Bennett formulated some very sound principles of teaching industrial arts. All of them are used in whole or part in some phase of our work even today, and his insight has been very valuable to teachers through the years. If the teacher of industrial arts is an artist he must know which of these seven techniques to use and when to use them to most completely accomplish his purposes. The author, of course, recognizes that there are many other important teaching techniques which the teacher may draw

from but these seven are some in which we may draw from.

If general education is the aim of the teacher, probably all the methods mentioned above will be made use of at some time. At times, or with certain pupils, there is nothing so effective as a simple imitative method; but no scheme of instruction can reach its highest level that fails to lead the pupils out into a rich field of related information or that omits entirely to make use of the creative technique.

THE PLACE OF MANUAL ARTS IN EDUCATION

Mr. Bennett had a very sound philosophy concerning the place of the manual arts in education. (We will use the term "manual arts" in this particular discussion because that was the term used at the time of this literary work of Mr. Bennett's). He felt that as the field of school education broaden, its aims and methods become more varied and complex, and often confused. This seems to be the case today in that department of education which deals with industrial arts. He continued that the motives for the introduction of these arts had come to be so varied that to think clearly concerning this phase of school work was very difficult. This was perhaps fundamentally due to changing social ideas and consequent demands, but it was partly due to a failure of educators

to recognize both in attaining the end of education and in facilitating the educative process. The teacher he felt needs to keep in mind this dual capacity which the manual arts possess as a means in education.¹⁴

Bennett further stated that this duality of function is not peculiar to the manual arts. It is equally true of the natural sciences, and many have been the pedagogical battles fought out in that field in times past. One can readily recall the time when the science teachers were dwelling in two camps, one emphasizing the facts of science and the other the method. It would seem, therefore, that the arts might have profited by the experience of the sciences, but in much of the discussion in the past, this surely has not been the case.¹⁵ One man he continued, looks upon the manual arts only as a body of subject-matter to be taught as he would teach the facts of history; another insists that the manual arts must be regarded as a fundamental method of education, and claims to care little or nothing for the subject-matter involved in this method. The place, therefore, he felt of the manual arts in one case is quite different from that in the other. One leads chiefly to a mastery of the materials

14. Charles A. Bennett, The Manual Arts, (Peoria, The Manual Arts Press, 1917), p. 22.

15. Ibid., p. 22.

and the manual processes of industry, the other to a new
 motive and means of expression in teaching other subjects.¹⁶

"The man whose vision penetrates deep enough sees that
 the big truth concerning the manual arts includes both of
 these, and that instead of being in conflict, they are
 really in harmony. When this viewpoint has been gained,
 a most fundamental step has been taken toward finding the
 place of the manual arts in education."¹⁷

Mr. Bennett considered four propositions in discussing
 this larger view:

1. "Insofar as the end in education can be attained
 more readily through the employment of the manual arts,
 these arts should have a place in education."¹⁸

He believed that the ultimate end of education was
 social efficiency in the individual, the manual arts then
 should have a place in school education corresponding
 to their effectiveness in helping men to become socially
 efficient. As social efficiency in the individual means
 first of all that the individual must be directly or in-
 directly a productive member of society, the arts must
 answer the demand of productivity. To be productive a
 man must at least "pull his own weight." He may do so

16. Bennett, The Manual Arts, op. cit., p. 23.

17. Bennett, The Manual Arts, op. cit., p. 23.

18. Bennett, The Manual Arts, op. cit., p. 23.

either directly as a productive agent, or indirectly by guiding, inspiring, or educating others to productive effort.¹⁹

Mr. Bennett felt that manual arts contributed to social efficiency in several ways. They not only give vocational power, contributing largely to ability to earn a livelihood, but they impart first-hand knowledge of the material accessories of modern life. Every man's effectiveness and happiness is dependent in some measure upon the ease and intelligence with which he utilizes the modern conveniences in his own home or the material devices which make for economy and efficiency in business life. The manual arts develop appreciation of beauty in its relation to material form, color, tone, and texture, which is an element not only in esthetic enjoyment, but in general efficiency and productivity. And, further he stated that the manual arts provides a means in addition to written language, of transmitting from generation to generation, some of the choicest thoughts and feelings of man. Since the manual arts contribute so largely to social efficiency, and social efficiency is the end sought in education, the manual arts²⁰ deserve a place in school work.

19. Bennett, The Manual Arts, op. cit., p. 24.

20. Bennett, The Manual Arts, op. cit., p. 25.

2. "In so far as the educative process can be accelerated and made more thorough through the employment of the manual arts, these arts should have a place in education."²¹

Mr. Bennett expressed the idea that the educative process is one of gaining experience either directly, or indirectly, through other persons or their records in books or works. He felt this process of gaining experience, the value and effectiveness of indirect experience is dependent to a very large extent upon related direct experience. There is no substitute for such of these direct experiences as are fundamental, and the greater the number, the greater will be "the mass of apperceiving ideas," though after some fundamental direct experiences have been gained, it is often economy to make use of indirect experiences. He continued that to gain the fundamental direct experience at the time when needed and in the right relation to associated indirect experience is most desirable, and to bring this about is largely the work of the school.²²

Applied to the manual arts, this indicates that if these arts are to be effectively taught in the school, or if real appreciation of these arts is to be developed, first hand experience must be gained in them in the school. It is folly to try to teach a boy to appreciate woodwork

21. Bennett, The Manual Arts, op. cit., p. 25.

22. Bennett, The Manual Arts, op. cit., p. 26.

without giving him tools and teaching him to use them. Moreover, many of the other subjects of the school curriculum are naturally so interwoven in the manual arts and find practical application so widely through them, that direct experience in these arts provides a motive, a need, recognizable by the child, which is at the basis of many of our modern methods of teaching. Thus the manual arts serve as a method or means of teaching other subjects, and so contribute an element of value in the educative process.

3. "If the place of the manual arts in education depends upon their service in attaining the end of education and their value in the educative process, then they should be regarded as both subject and method."²³

Bennett elaborated on this point as he related that the history of handwork in education reveals two traceable tendencies concerning the place of the manual arts, which have been more or less in conflict. One has been to regard these arts as a subject and the other as a method. He felt the manual arts in education should function both as subject and method. The advocate of either view by itself seemed not to present the whole truth. To contend that in order to have educative value, work in the manual arts must provide a trade, or to look upon these arts in the school as merely producing certain specified material

23. Bennett, The Manual Arts, op. cit., p. 27.

forms in wood, metal, etc., without reference to how they are produced; or again to think of the manual arts as merely a body of facts to be learned about materials, tools, forms, and processes, is to fail to get an adequate idea of the place of the manual arts in education. On the other hand, to insist, as some had done, that the function of the manual arts is to provide a concrete method of teaching other school subjects, or to supply a motive or need which will admit of a better method of teaching the other subjects, is to reveal an equally inadequate conception of the function of the manual arts in education. Mr. Bennett summed this up by stating that only through the unification of these two views of the manual arts, regarding them as possessing at once the characteristics of both subject and method, can we hope to get the true and adequate conception which will be a safe guide in organizing manual arts in the school.

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4. "Considering the place of the manual arts in education as dependent upon the aim of education and the needs of the educative process, and regarding these arts as both subject and method, the place which they should occupy in the work of any section of the school, as primary, grammar, or high, can be determined by discovery of the specific end sought in that section and the special needs of the educative process with reference to the manual arts in the particular stage of child development represented

24. Bennett, The Manual Arts, op. cit., p. 29.

by the section."²⁵

Bennett felt the aim in the primary grades should be to utilize the manual arts in giving the child an opportunity to gain a wide range of direct and useful experience with constructive materials and processes, without much reference to technic. In the early grammar grades the emphasis begins to shift toward the manual arts as a subject, and in the upper grammar grades, technic is as essential as was freedom from technic in the lower primary grades. In the high school the manual arts became differentiated into special subjects, as wood-turning, forging, drawing, etc. As a method in education, they are still valuable, but it is the educational end they serve far more than any value in the educative process that gives them their place in the curriculum.²⁶

The place of the manual arts in school education, then, is that of both subject and method. As method, it is most effective in the primary grades. As a subject, it grows more and more important as the grades advance, and becomes a highly specialized subject or group of subjects in the high school. A full recognition of these two aspects of industrial arts as they apply to present day methods, and what naturally follows as a result, should be a help to every teacher and school superintendent in organizing his course of instruction.

25. Bennett, The Manual Arts, op. cit., p. 30.

26. Bennett, The Manual Arts, op. cit., p. 33.

CONCLUSION

The active life of Mr. Bennett came to a close on Wednesday, June 17, 1942, and with its ending, another of the pioneers of American education has gone. In the passing of Mr. Bennett, the field of Industrial Arts in the United States has suffered the loss of a great man. He carried on the great pioneering work of establishing the field of industrial arts as a necessary part of general education, and his many contributions to education will remain to guide and inspire others. One of the outstanding activities of Mr. Bennett's life was the contribution he made to the elevation of the school-shop teacher to that of a profession in the field of education. Through his long and untiring industry, Mr. Bennett left behind much of his wisdom, scholarship, and philosophy in books and articles, which will never cease to be a guide and inspiration to teachers who follow in the field of industrial arts.

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