

9-1920

Project Teaching of Manual Training

Henry J. Whitney

Follow this and additional works at: <https://digitalcommons.cwu.edu/cepsfac>



Part of the [Curriculum and Instruction Commons](#), [Educational Assessment, Evaluation, and Research Commons](#), [Educational Methods Commons](#), and the [Vocational Education Commons](#)

Manual Training Magazine

SEPTEMBER, 1920

PROJECT TEACHING OF MANUAL TRAINING¹

H. J. WHITNEY

Head of Department of Vocational Education, State Normal School
Ellensburg, Washington

RECENT numbers of this magazine and other good publications have emphasized the necessity that manual training teachers have a well recognized theory back of their work, and further, that the value of the work of any teacher is in direct ratio to the clearness with which this theory is comprehended and followed in practice.

It may be that what follows may present no new thought, but as it is necessary to have several views to completely delineate any complicated structure, so it may be that what follows will give another view of the complicated structure of educational theory back of manual training, and may therefore clarify our thinking and help to bring our practice in line with the theory.

REASONS FOR THE IMPORTANCE OF THE "WHY."

Theory, as I use it, is but the reason for what we do. It is the "why" we follow certain practices. We are all too prone to do what we do because someone else has done it, or because it was suggested in any one of the numerous publications. These suggestions are usually most excellent, for each one represents the solution of a typical project in some particular environment, but if any one of these suggestions is adopted *in toto* in some other environment, it may then come far short of being a project.

The doctor who administers ether and removes the appendix or the tonsils without reference to the "why" will not long be trusted to do any form of surgery. An architect who puts into his plans a timber of a certain size without reference to the "why" is brooking disaster. Now disaster is as likely to follow the work of a teacher who does not understand the "why," but when you compare the disaster of misdirected lives with that of a ruined building, you can see how much more important it is for the teacher to understand the reasons for his actions. An architect may copy from another and thus avert the result of his unconsidered action, but can we safely do this when dealing with human beings, for every individual is a case by himself and must be studied and dealt with accordingly.

In the process of the union of the egg and sperm cells there are, as one authority puts it, a possibility of 500,000 different combinations. How exceedingly difficult it is to get two individual cases alike when this native equipment, which is the outgrowth of the union mentioned above, is acted upon in different ways by the thousands of experiences that each child has had. But while no two individuals are alike and must therefore be dealt with individually, there are certain ways of development that are the same for all. If you put yeast and sugar and wheat flour together, you have wheat bread; if you put in rye flour, you

¹ The author wishes to acknowledge his debt to Dr. Wm. Kilpatrick of Columbia University, whose article on "The Project Method" appearing in *The Teachers College Record* for September 1918, and whose classroom lectures have been freely drawn upon.

have rye bread, but the law that governs the action of the yeast is the same in both cases. In dealing with humans, we start with different material; tho the laws of mental development are the same for all, the product is different. May I say that it is these laws of mental development that we as manual training teachers must take more cognizance of. To revert to the illustration of the architect, he must take into consideration the laws of gravity, wind pressure and other laws when planning his building. In deciding whether or not to give an exercise for its own sake to develop skill when the need for skill is not apparant to the boy's mind, do we ask the question "What is the theory here?" Would you agree with me that an exercise given under the conditions stated above does violate the laws of learning?

DEMOCRATIC AIMS IN EDUCATION.

Our society has come to the place where it is demanding true democracy; democracy not alone in the exercise of political rights, but in the home, the school, and in every form of social activity. Probably the most of us would agree that democracy is a spirit, a way of working together. "It defines the rules of the game." So democracy is nothing tangible in itself, but it may result in something tangible, as the spirit of democracy may develop a certain kind of school organization, or a certain form of government.

The purpose of the school, as I see it today, is to develop individuals who are good members of a democratic society, and I say *are* instead of *will become*. Thus the school must take individuals, no two of whom are alike, and arrange to give them such experiences as will develop this spirit of democracy and will enable them to work skillfully in one or more lines of endeavor. In other

words, the school must create such an environment that each child will receive a liberal or cultural education and a vocational education. The spirit of democracy in the way I have used it includes all that is desirable in the term cultural education, and to be able to work skillfully in one or more lines of endeavor, is vocational education.

A democratic society demands that each individual shall have wide interests, be self-reliant, resourceful and social. A person who has wide interests will see the significance of his work in relation to that of others and to society in general. It will tend to make an artisan out of every worker. By self-reliant, I mean the disposition to undertake and to "carry on." This takes courage. But it is right here that so many young people fail; they lack the courage to tackle the job. They are not self-reliant. By resourceful, I mean ability to size up a situation correctly. Here is where knowledge and skill come in, but it is ability to use knowledge and skill that counts. By social, I mean: first, a disposition to co-operate and skill in co-operation; and second, a knowledge of when and where to apply the co-operative energy. A person may be disposed to co-operate but spoil things by lack of skill, as a child wants to help his mother and spills the milk. Again, one may spend all his co-operative energy skillfully to the boosting of some political party to the neglect of his church or his home. If he does this, he is to that extent unsocial. A teacher may devote all his energy to the schoolroom and neglect his association with other forms of organized social effort. To some extent then this teacher is unsocial.

Widely interested, self-reliant, resourceful and social people can adapt themselves to an ever changing environment, which is implied in a democratic society. Com-

pared with today, for more than a thousand years before the Industrial Revolution, society was static. A boy could be educated by his father and take his place in society, but today this is impossible; things are changing rapidly, hence adaptability is necessary. Wide interests help adaptability and form a basis for self-reliance, for resourcefulness and for right social action.

Summary: A democratic society must have democratic individual members. To be a valuable member of society, one must have wide interests, be self-reliant, resourceful, and social. It is the duty of the school to develop such people. Such is the aim of our school work in general, and of the manual training in particular.

PROJECT TEACHING IN ITS RELATION TO DEMOCRATIC IDEALS IN EDUCATION.

A project is any activity purposed by an individual and by him carried thru. The laws of learning by which mentality develops may crudely be stated thus: Mind has a physiological basis; it is the register of what we have experienced. Learning, then, is making a new entry on the register. Again, man learns when he has to, or when he is up against a difficulty, and human instincts are "but the reflection of past racial necessities." The result of all these racial experiences, physiologically, is a nervous system so organized that when a difficulty presents itself, the body is immediately ready for action. Now let us say that a difficulty recognized is a problem, and when an individual purposely sets about solving this problem, it becomes for him a project. Because of his purposeful activity his muscular activity is more accurate and success is more likely to be attained, and remembering, (adding to the register) is much better, and the thoughts which accompany such action are social thoughts

and right ideals are built up out of such action.

What we get then from purposeful activity (the project) is more efficient effort, resulting in success, right attitudes toward the work in hand, toward school and life, also good standards of work and ideals. The result of non-purposeful activity is just the opposite—inefficient effort resulting in failure. There can be no success, for success is attaining the end in view, and there is no such end in non-purposeful activity. There is no remembering of desirable things, no skill acquired; poor attitudes toward the work in hand, toward school and life are fostered, therefore poor standards and low ideals are the result.

I have endeavored to make clear, in order to most effectively make use of the laws of learning, the necessity of the presence of a difficulty, moreover the necessity that the person recognize the difficulty (problem) and accept it and purposely set about finding a solution (project). Now life is but a series of purposeful or non-purposeful activities. Every purposeful act presupposes a difficulty. Now to attack this difficulty requires self-reliance, and to solve it requires resourcefulness.

We see then that the project furnishes opportunity to develop directly those qualities that we deemed so important in members of a democratic society; namely, self-reliance and resourcefulness. Now if many projects are developed in the proper social environment, there is then furnished the opportunity to develop wide interests and a right social spirit.

Summary: Project teaching, which means the furnishing of such a stimulating environment that individuals will react purposely and wholeheartedly, will develop those qualities in its members that a democracy most needs.

MANUAL TRAINING IN ITS RELATION
TO PROJECT TEACHING.

There are at least four types of projects that boys will enter into wholeheartedly: First, where the purpose is to enjoy some delightful experience, as listening to music, reading an interesting story, looking at a picture, playing, etc.; second, where a difficulty is to be solved, as getting arithmetic lesson, a lesson in geography: third, where skill is to be acquired, as learning the use of the plane, learning the multiplication table, spelling, writing, etc.; fourth, where the purpose is to be embodied in some outward form, as writing an essay, making a chair, table or bookcase, etc.

Projects are then not limited to something we make or can make in the shop, but include all phases of school work. The project is the subjective side of learning and is in the mind of the individual. What the school does is to so arrange the environment and furnish the curriculum material that projects will arise in the minds of the children.

All normal boys love activity for its own sake. They care not so much what they are making as that they are making something, therefore they will accept as purposeful activity almost any kind of activity that the skillful teacher may present, provided its usefulness is apparent. The task of the manual training teacher then is not so much to get purposeful activity as to get fruitful activity, activity that will lead on to other fruitful activity.

I believe then that the emphasis of upper grade manual training, if not of all industrial arts work in all the grades, should be on habits and attitudes. Habits of self-reliance, resourcefulness and of making wise choices and correct judgments. We want to foster shop neatness, love for work, and promote such organization as will make better work possible.

What of skill is developed is purely a secondary matter, for the child has not yet reached the vocational period.

What does this type of teaching manual training demand? Briefly this: a large room, well lighted, well ventilated, well equipped and well kept, with tools in place by every class for every class. There will be tools for participation in many kinds of socially valuable activities, such as drawing, woodworking, metalworking, printing, electricity, photography, shoe mending, etc.

Projects will arise here because of school demands or home and community demands. The teacher is the big factor. His duty is to create the environment, stimulate to self-reliance and resourcefulness, see that fair play is had, and that shop order and shop methods are as much projects as the actual construction work.

Not all the boys will react normally to this environment as described, for some are already spoiled and are pathological cases. They will have to be treated to medicine, and that sometimes bitter. But the fact that some boys have to be treated with authority, is no argument against project teaching, but is a big argument for the teacher having a workable theory back of his practice. He should be able to pick out the pathological cases and to treat them according to the nature of the ailment.

In closing, I wish I could emphasize more than I have the important function of the teacher. If it is habits and attitudes we are to be most concerned about, the teacher must be first a *man*. And I mean a man whose habits of life are above reproach, and are such that any father would be glad to have his boy pattern after the teacher. Second, he must be a good organizer, and skillful director, for he can do much thru

shop organization to get proper social action. Third, he must be a skillful workman in order to gain and retain the respect of the boys. Lastly, he must be a student of human behavior. It is not sufficient to sympathize with boys, he must know boys, and this means a working knowledge of psychology and philosophy of education.

Summary: Project teaching of manual training is the most difficult kind of teaching, but with all the most fruitful, for it furnishes the opportunity to develop those qualities of manhood that our democratic society most needs today, and it enables one to make most effective use of the laws that govern the development of all human beings.



THE JOB IS DONE, AND WE DID IT

A SOLUTION OF THE "HIGH COST OF LUMBER" PROBLEM FOR HIGH SCHOOL CARPENTRY WORK

E. E. ERICSON

Director of Manual Training, Okmulgee, Oklahoma

AT THE close of the first semester last year a group of boys were to be promoted from the eighth grade into our high school. It was known previous to the time of the promotion of these boys that some of them would apply for work in manual training.

While we were seriously trying to organize a course for these students that would add materially to the scope of work that they had covered in the grades and which would at the same time be limited in expense to our capacity for buying materials at that time of the