THE APPLICATION OF EDUCATIONAL PSYCHOLOGY TO THE PROBLEMS OF THE SPECIAL CLASS.

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The "special class" has for its purpose the educational development of a group of little-understood children, children who have failed in their regular work, but whom we believe can be somewhat helped by special methods. The first business of the teacher here, as in the normal class, is to understand the child.

We now know something of the nature of the normal child. We know that he is a being made up of instincts and impulses, which develop at different times and must be acted upon as they develop. We know a little of what may be expected of a child at the various ages of his life. All this is available for the regular teacher.

Of the dull, backward or feeble-minded child we know very little; consequently, the task of the teacher of this class is vastly more difficult than that of the regular teacher. She has a book to read which has never been translated, for which there is neither dictionary nor grammar, and yet she must somehow read that book, she must somehow understand it, in order to be able to use it.

The story is told that there was once a block of marble which had been rejected by the sculptors as not fit to use. It could not be chiseled and cut in the usual way, and was considered worthless; but a master came along. Michael Angelo picked up this block of marble and from it carved the beautiful David—a priceless work, than which the most promising block of marble never yielded anything more beautiful.

The teacher of the special class may not develop out of the material rejected by the public school a specimen more wonderful or more useful than those turned out by the regular class, but she may develop something that is extremely beautiful and useful in comparison to what it would have been without her ministrations.

Educational psychology seeks to determine the psychological nature of the beings to be educated in order that, the fundamental principles being known, they may be used for the better education of children. It seeks to determine the psychological principles underlying the learning process and to show how to apply them. The special class ought to be a verdant field for educational psychology. Educational psychology ought to be the chief reliance of the teacher of the special class. We are very probably correct in regarding the feeble-minded child as a case of arrest of development. The question arises immediately: What mental processes are arrested, and how far have they developed before the arrest took place? Can such processes be made to continue and develop by any special treatment? Can other processes that have never come to development be brought out by special manoeuvring and manipulation?

Educational psychology tells us that what we are is either acquired or inborn; that if we would expect a child to take the ideas we desire to give him, we must first interest him; and that he will be interested because the ideas appeal to some fundamental inborn interest. Normal children have acquired many interests long before they come to school; consequently, the teacher of such a child has much upon which to build; much of what she attempts to teach meets with a ready response in the mind of the child, because in his five or six years of life he has already learned many things. Such is not the case with the feeble-minded. Dull of sense, dull of intellect, he has not acquired those things that have been acquired by the normal child; consequently, the teacher of the backward or defective child especially, must know

what are his instinctive tendencies. But further than that, as has been intimated, the instinctive tendencies may themselves be arrested, or may never have developed. Hence, it is incumbent upon this teacher to go farther and to learn which of the instincts that are present in the normal child are still present in this subnormal child, which have been arrested, and at what stage. In other words, she must take account of stock, and she must expect to find the cash in the drawer very little indeed. But upon this little she must build. With this as her starting point, she must develop whatever is capable of development in the brain of this defective child.

I have said that the teacher must do this, but the teacher can no more discover this herself than the teacher of the normal child can discover the psychological principles that underlie her work. This must be done by the man of science, by the educational psychologist. It thus becomes the province of educational psychology to study these problems, to discover the facts, and to prepare them for the use of those who have the practical work of training and educating these subnormal children.

Unfortunately, psychologists have not devoted sufficient attention to the subnormal child to afford as much knowledge as we would like to have about the development of the various mental processes in these children. Johnson made a careful study some years ago; Wiley has made some contributions, and Kelley has also published a study. More attention is being paid to the problems now, and we may hope that in the near future important discoveries will be made. The importance of this knowledge for the teacher of the subnormal child is well illustrated by the consideration of memory.

The psychology of memory is, of course, one of the fundamental things in the study of the learning process. The different kinds of memory—how the child uses his memory, how he utilizes the material before him—are very important

elements in the problem of instruction and of learning, and yet misunderstandings resulting from this are the cause of a great many failures of children to make progress. It is well known by psychologists that there are two phases of memory—the natural retentiveness and the logical association. Now a person may have a good memory in either of these respects. The one makes it possible for him to repeat details accurately and for a long time after their occurrence. The other makes it possible for him to reproduce things that have a logical connection. It is seen at once that the latter of these is the more valuable for the development of thought, intelligence, and understanding. A parrot or an animal may have the first, but has not the second.

It is unfortunate for our methods of testing the advancement of a child that we tend to rely too much upon the first kind of memory; yet a child may be able to reproduce and give back to us what we have given him, in the exact language in which we gave it, without ever comprehending what it means. Gratified by the exactness with which he reproduces our language, we are inclined to judge hastily that he has mastered the subject. Nothing could be farther from the truth. This is especially true of the subnormal child. Very often he possesses this natural retentiveness in a high degree. I have known low-grade idiots, who could repeat scripture years after they had learned it and with wonderful accuracy. Indeed, it is well known among those familiar with feeble-minded children that memory is no guarantee of intelligence; it does not even indicate the grade of mental defect.

If, however, we look for memory of the second kind—the logical connection between things—here it is that our subnormal child reveals his insufficiency. Of course, the explanation is that he does not make the logical association, and not making it does not remember. Therefore, in all those things involving that kind of memory, we find him deficient. The importance of the teacher's knowing these fundamental facts

of the subnormal mind cannot be overestimated. Indeed, the gravest danger confronting the teacher of the special class at present is that, ignorant of these facts, she will continue to drill him, as she might drill a parrot, upon those things that he can repeat, reproduce, and give back very nicely, and therefore she is deceived into thinking that he is learning, and that his mind is being trained. This is a grave mistake, not only because the child is not trained by this method, but because time is wasted which could be put to so much better purpose.

Again, we may turn our attention to the psychology of association as an illustration of the importance of a knowledge of educational psychology for the teacher of the subnormal child. The teacher discovers very quickly that the subnormal child does not associate normally. The suggestion of one thing does not call up the thing that to the teacher seems to be most naturally and intimately associated with it, and the question at once arises;—Why is this so, and what is to be done? Here we have to refer to the physical condition of the subnormal child. Undoubtedly, the reason for this lack of association lies in the fact that the association fibers are among the parts of the brain that are most seriously affected. Developing late as they do, it is very probable that the arrest has caught them undeveloped, so that the child does not associate simply because he has not the organs for associating.

Educational psychology also gives us the answer to the question:—What is to be done in such cases? Of course, if there are *no* association fibers (as is very likely the case in the lowest grades), nothing can be done; but if it is a question only of development of the association fibers, then the procedure, in principle, is simple. When the organ to be used is defective, greater care must be taken in using it. In other words, if the child does not associate naturally and easily, it is incumbent upon the teacher to make the associations for him and to force them upon him by continued repetition. This is, of course, exactly what is done in all of the memorizing

that is given such a child to do. We must do the same thing in subjects that we do not usually think of as involving memorizing. The danger always to be guarded against is that we get in all these things precisely what we get in the memorizing of words, merely a verbal association without any thought resulting. However, there is nothing else to do, and we can only hope that some of the associations will somehow have such ramifications that meaning will gradually flow into them.

There are many and different problems before the teacher of the special class that can only be solved by an appeal to educational psychology. The great problem is, Where does this child stand? What may he be expected to do? Wherever we turn we find the same thing involved. For example, many backward children and defectives are decidedly lacking in the power of accurate speech. What shall we do? We have found by experience that some children can be remarkably improved by speech training; others not at all. Which ones shall we train and which ones shall we give up before we begin? The answer to this can only be found by knowing why the child is defective in speech.

Reference to genetic psychology would show us two things; first, that speech depends upon a sound speech organ—not simply the vocal organs but the brain center—and secondly, it depends upon the association fibers, or upon the reason and intelligence of the individual. A child may not be expected to speak distinctly and correctly unless he has a good association between the hearing and speech organs, any more than he can be expected to speak well if he does not hear at all. There must be an idea of the sound, and the connection between the sound and its production by the vocal organs must be clearly established. But when that association is made, the child must also *be able to produce* the sound that he desires to produce.

Now, when we look into this matter further, we discover that there is in many cases a fundamental speech defect, which dates back to the ancestors of the child. In other words,

speech defect is frequently hereditary. In such cases, we may no more hope to develop speech in him than we could hope to develop a fifth finger if he had been born with only four. He has been born without adequate organs for the accomplishing of this thing. We have in our institution one boy who has received speech training for years with no result. We now find, after the study of the family history, that he has inherited this speech defect from his parents and even from his grandparents. It is so general in the family that all his uncles and aunts have the same condition. Had this been known some five or six years ago, an enormous saving of energy on the part of the teacher and an enormous saving of worry and discouragement on the part of the child, would have been accomplished.

One of the much discussed questions at present is:—How much of the usual school studies shall backward or defective children be expected to do? To many teachers, even those in institutions for feeble-minded, the ideal seems to be “as near like normal public school class as possible.” At the other extreme are those who say that none of this work is suitable for feeble-minded children. The answer can only be found, the problem can only be settled by an appeal to educational psychology. We must know the genetics of the case. We must know what mental processes this child has, and what therefore, he may reasonably be expected to do and accomplish. Knowing this, we have our guide, we have our map laid out, and we can follow it with some hope for success.

The relation between educational psychology and the special class is by no means one-sided. If the special class must look to educational psychology for the solution of many of its problems, on the other hand, educational psychology will find in the special class the opportunity for the answers to many of its questions. One of the prime difficulties the student of the developing human mind has, lies in the fact that normal growing minds move by leaps and bounds, and that before one process is definitely understood, it has passed through

all its stages or at least into another condition. Backward and defective children furnish the much desired opportunity for studying the growth of mental processes in beings where that growth is slowed down or stopped.

The problem may be made clear by an illustration. A man stands by the roadside as an automobile passes at forty miles an hour. He sees a cloud of dust, hears the rattle of wheels, smells the odor of gasoline. Before he has time to think whether he knows anybody in the automobile, it is out of sight. Now suppose another automobile passes at the rate of five miles an hour. An observer of this one would not only see how many people were in the vehicle, but who they were and how they were dressed, and after the machine had passed he could give a satisfactory account of what he had seen. Again, suppose the automobile should come along at the very slow pace of perhaps a half mile an hour. He could watch very carefully and learn much more about what was going on. Lastly, if the automobile should stop in front of him he could get into it, examine its mechanism and machinery—learn all about it.

This is precisely what we have in the defective child. We have all grades, from those who are passing at almost the normal rate down to those who have absolutely stopped. Those that have stopped have done so at various stages of their development and consequently we have the opportunity to examine each such child and find out exactly what mental process is active at that time. We can take years for this study and learn all about it.

The teachers of these classes must necessarily make a great many experiments. They must try a great many different plans, and the result of these experiments, when accurate records are kept, must be of the utmost value to the student of human mind. Already these classes in institutions have furnished data of importance, and more than one innovation which has proved to be of the greatest benefit to our public-school system, originated in schools for the feeble-minded. Why did it originate there? Because these teachers found that

nothing else would succeed. They were driven to this method. They did not come to it logically and reason out that this would be likely to succeed, but they tried other methods in vain, until finally this was hit upon and proved to be successful.

Again, the backward and defective pupil has this peculiarity that he is not filled with enthusiasm, as is the normal child. Many a teacher considers her method of teaching some branch successful, when in reality all that has been achieved is the result of her enthusiasm for the work. The method may not fit the child at all, but the teacher manifests a good deal of enthusiasm over it and the child copies her. Now the defective child does not do that. The method that is adopted for his work must fit him or nothing is accomplished.

In institutions there are always found a certain number of children who are known as the clothes-tearers. Visitors frequently find them with their hands in "mits," strapped together. When they ask why this is, they are told that if their hands are not tied, they tear their clothing to shreds. It is found upon examination that the reason these children tear their clothing is that the clothing does not fit them, or does not please them. And being of such low intelligence that they cannot tell exactly what the trouble is, they cannot complain to any one and say that this collar hurts or that shoe pinches. The only thing that they can do is to tear it loose, get rid of it, get it away. And so they are always tearing their clothes. Of course, this very inability to complain, to tell where the trouble is, makes it practically impossible to fit them with clothing. In the same way, they reject, tear to pieces, so to speak, methods that do not fit them. Let a teacher or an attendant attempt to manage them in a way not adapted to their nature, and the result is as disastrous as putting on misfit clothes. This will make it clear why the special class is such a rich field for the educationalist and psychologist.

I have left for the last what I regard as the greatest of all the contributions that educational psychology can make to the special class. It is nothing short of an understanding of what

a mentally defective child is. An important educational association recently devoted a whole session to a decidedly futile discussion of the problems of the backward child. The discussion did not get anywhere and no one went away feeling that he had been enlightened. The whole situation was summed up in a single sentence by a man who has spent his life with feeble-minded children, who has been brought up in connection with the problems of this group of children and who perhaps knows as much about them as any one living. He said, in writing to a friend:—"the cause of the whole trouble is that those people do not know what a feeble-minded child is." No truer word was ever spoken, and nothing truer could be said at the present moment than that no one does know what the feeble-minded child is, except the man or the woman who has spent years with them. But educational psychology will ultimately be able to define a mentally defective child—not only to define it in words but to diagnose every case, and to show definitely in what way and to what extent the child is defective. Then it will be able to make its contribution to the special class and that contribution will be: first, to show us what a feeble-minded child is; and secondly, to show us how we may know the exact degree of defect in the children in these classes. Until this is accomplished, the work of the special class must be largely experimental and the hopes of many teachers must be largely disappointed.

The most common difficulty at the present moment, in places where special classes have been established, is that those in authority, ignorant of what a feeble-minded child is, are holding the teachers up to a standard which cannot possibly be reached. When once the feeble-minded child is understood, and when everybody realizes what he can, and what he cannot do, then the demands will be made in accordance with the ability of the child. The teacher will not be asked to do the impossible, but she will be given her class, and given suitable

materials, and suitable methods, and asked to do whatever can be done, and no more.

Such is the answer to the question:—What can Educational Psychology contribute to the teacher of the Special Class? Many of the foregoing statements will seem dogmatic and even extreme, but this is not an article in which the writer is expected to make contributions to the subject of abnormal psychology, but merely to present a view of the field that will give the reader some impression of its vastness and of its fertility. The statements here made are the mature conclusions from study and work already done, the data for which may be presented later in special papers on various topics.

The treatment of certain of the insane by educational methods is one of the most significant educational movements of the time. C. T. La Moure, writing in the *Alienist and Neurologist* for August, describes an experiment in the Rochester Hospital. About twenty-five per cent. of the admissions to hospitals are classified as dementia praecox cases, and only about one-sixth of these recover. It is an insanity of youth. These patients have been arranged in classes and stimulated to play and work in various ways. They begin with basket-ball, music, singing, dancing and gymnastics. The patients respond to this educative process and it has a wonderful effect upon their manners, interests, and personal appearance. "During the time the school has been in progress marked improvement is apparent in every case." Several cases have been removed from the violent wards to better wards, where they make no trouble and assist with the work, become tidy, and take a personal interest in their activities. They are taught to sew, weave rugs, make baskets, and do fancy work. The aim is to interest them in the various kinds of work so that each one will be able to assist in the work of the institution. The treatment of the insane covers one of the darkest pages of history. While the estimates of results reported in this experiment may be sanguine, we should rejoice in the undoubted promise which it gives for the future of the young insane.