PSYCHOLOGY IN EDUCATION

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PREFACE

This textbook is addressed to senior-college and graduate students and teachers. It provides a psychological treatment of practical problems in education and a systematic exposition of psychological data basic to education. Broadly speaking, it treats the educative process. Throughout, it is concerned with the practical. It also gives mature consideration, supplemented by experimental investigations and historical background, to various psychological phenomena that are basic to critical reflections about educational problems. So much has been said in education about laws of learning, transfer of training, motivation, schools or systems of psychology, and other topics of lesser scope, and especially since much that has been said is equivocal, it behooves us to gain some scholarly understanding of them. One can become an electrician without much knowledge of mathematics or electricity. To become an electrical engineer is another matter. Artful practice alone does not make a profession, be it in medicine, the law, or teaching. Also required is a substantial fund of organized knowledge basic thereto.

Source materials have been drawn rather liberally from investigations made in school situations, as well as those conducted in psychological laboratories. It is significant that experiments of the psychological laboratory and those conducted in class-room situations are mutually supporting. It has been the writer's experience that teachers and teachers in training have more confidence in the applicability of psychological findings to education when corroborative findings have been obtained under class-room conditions.

This book contains a considerable body of data drawn from sociology and cultural anthropology. To an extent it may be said to be written from a sociological standpoint and to represent an approach to a social psychology of education. Such data enrich our knowledge of the social processes of education, motivation, the conditions of mental development, and of human behavior – habit, thought, and feeling – as determined by

the cultural heritage. To this source we turn for information on the effect of class, race, and kindred factors upon education.

The volume provides a treatment of the *development of the human mind;* or, at least, an account of how experience – the cultural heritage, the educative process, etc. – contributes to this development. *Mental development* is, or should be, the central theme of educational psychology. An attempt has been made to show how, and the extent to which, mental development is fostered by education. Mental abilities do not, like Minerva, spring full-grown into being. They come about as a process of growth and development. Mental growth is not characterized by *stages.* All the mental processes appear to be present in young children. We do not have to await the attainment of a given developmental level before introducing reasoning, for example, in our schools. There is not one stage in which to specialize in the acquisition of factual information and another in which to cultivate critical thinking.

Considerable space is devoted to the psychology of basic school subjects. A chapter is assigned to reading; a substantial portion of a chapter to language and number. Discussions of such topics as the thought processes, critical thinking, cultivation of the higher mental processes, guided learning, retention of what is learned in school are especially appropriate to the social studies and science.

In the preparation of a textbook one is obligated to many persons. The writer wishes to acknowledge special indebtedness to Professor Ernest Horn, for many critical suggestions, and to Doctor Henry Smith and Miss Ava Van Duzer, for valuable assistance in the preparation of the manuscript.

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CHAPTER I

THE EDUCATIVE PROCESS

SCOPE AND FUNCTION OF EDUCATION

Taken in its broadest sense, not in the narrow sense of schooling, education is the process by which societies perpetuate or renew themselves; or, perpetuate themselves by renewal. As surely as the maintenance of the species depends upon renewal by reproduction, so surely does the maintenance of societies depend upon renewal by education. Indeed all life, whether it be the life of societies or the life of a crustacean, maintains itself by renewal. Dewey has made this the distinction between animate and inanimate things.[1]

Education is, or certainly may be, more than a mechanism of maintenance of societies; it is, or may be, a means of their growth. Maintenance insures the growth of the constituent members up to a certain point, but not the growth of society. When there is in a succession of generations no change in society, there is no aggregate change in its constituent members. In a society that is merely maintaining itself, education's work is rather easily accomplished, for reasons we shall see later, provided there is an absence of caste or other forms of social stratification.

All peoples now living, and all those of the past of whom we have any record, live by arts passed on by education from generation to generation. The mental development of a people is closely correlated with, and seems to be conditioned by, their cultural development. Education is as necessary to one's becoming a savage as it is to his becoming a worthy member of the most cultivated society. As Dewey has suggested, it would appear that, in a sense, savage mentality is an effect rather than a cause of their savage culture. Perhaps each is cause and each effect; but there is no pressing reason to believe the savage

[1] J. Dewey, *Democracy and Education.* New York: Macmillan Co., 1916.

incapable of high intellectual attainment, should his culture provide the proper stimulation and educational means of development. It is reasonable to suppose that the difference between savage mentality and our own is owing to differences in education, in its catholic meaning. The life of societies is not maintained by preserving the members merely in a physical sense, but by initiating the immature members "into the interests, purposes, information, skill, and practices of the mature members . . . Beings who are born not only unaware of, but quite indifferent to, the aims and habits of the social group have to be rendered cognizant of them and actively interested."[2] Not only does the perpetuation of society depend upon *transmission* quite as much as does perpetuation in a biological sense; but the mental characteristics of the people at any given time are dependent upon what is transmitted culturally just as surely as their morphological characteristics depend upon what is transmitted biologically (*cf.* Chapter III).

In still another way we may see how education contributes to mental development: Education takes place when the world from without and the world from within meet. It is not as if the occurrences, sequences, and laws of nature were merely impressed upon the mind through the portals of the senses. Were such the case the best educated men would always be those who have the best mental organs or the best senses or who live where natural phenomena are in greatest abundance; rather than those who have the richest cultural heritage. Education changes and, indeed, largely fashions the "world within." The world has no meaning save that ascribed to it by man. By this we see how the meaning of the world and universe and all things therein has changed down through the ages as the mind of man has been changed by the floodtide of culture. Education has thus provided new worlds upon new worlds. People are educated by other people, by the ideas of other people, and by the impact of their culture. The same brilliant and beneficent sun shone down upon the peoples of the Nile for thousands of years before the sun god worship took hold of Egyptian minds. It was not the sun but the idea that

[2] *Ibid.*, p. 3.

thus supplied the man of the Nile with the first form of religion known to the races of man.

EDUCATION IN PRELITERATE SOCIETIES

Perhaps we may the better understand the process and function of education by first scrutinizing the conditions under which the cultural achievements of preliterate peoples are transmitted to the immature members of their societies. In the most primitive of preliterate societies all education is informal in the sense that there are no schools and no teachers in the accepted usage of those terms. Much of it is incidental in the sense that there is neither intention on the part of the elders to teach nor on the part of the youth to learn (*cf.* Chapter XI). There is living together and participation in activities. Some of these activities satisfy bodily needs and are, therefore, their own warrant; others, such as ceremony, ritual, taboo, magic, warfare, and the like are re-enforced by the highest social sanctions and are likewise accepted by the youth as being of the greatest worth. In these processes of social interaction the youth learn the activities of the group. Indeed these are the most natural and effective conditions of learning. There is purpose in the activities – purpose that is very real to the youth – though they need not be conscious of the fact that their participation in them is a means of learning.

There may, of course, be a good deal of purposeful tutoring by parents or elders, even in such primitive arts as the shaping of a stick for digging roots and bulbs or the making of fire, or in marriage rites, counter magic, and the propitiation of ghosts of the dead. But in all cases there is the condition not of participating for learning but of learning by participating in activities that are, so to speak, their own end.

In a superficial sense it may be said that the youth learn by imitating their elders; but imitating is not the end, not the motive. They imitate, *i.e.*, act like their elders, in order to accomplish the same end, or as a technique of becoming like them by identification, not to satisfy an innate urge to imitate. Imitation serves to provide a method, a cue. Imitation becomes a technique whereby motives are satisfied, and thus

assumes a place of importance along with other adaptive responses. The truth of this may be seen in a fact which we shall have occasion to mark in the following chapters, namely that cultural transmission does not take place merely because of symbiosis, but requires the further condition that there be interaction, free play, as in face-to-face situations.

This kind of informal learning is not confined to preliterate folk but takes place in every society. Indeed it provides the first and most important educational channeling of our own youth – without which there would be no basis upon which to start the formal instruction in our schools. However, among primitive people, this is the most important and sometimes almost the sole medium of instruction. In certain African cults surviving among the Negroes of Brazil, as the *candomblé* or fetish-cult ceremonies, instruction in ritual and belief may be carried on informally by participation with relatives and friends.[3] This informal instruction extends to traditional dances, music, costumes, and other forms of ritual. Through this medium the young are taught the ways of the tribal life. On other occasions formal instruction in the cult may be provided by sacred specialists. For ceremonial dancers (daughters of the orixás) is provided very rigorous training lasting from a few months to a year. Their training is circumscribed by ritual and carries great prestige.

The Russian serf of by-gone days, as he cowered before the arrogant nobility, or sought to fend himself against physical violence, taught his children attitudes of servility more effectively than could have been done by the best formal instruction. By this informal way, we may surmise, the Negro youth in America unfortunately "learn their place" and would do so without any purposeful instruction upon the part of either the whites or the Negroes.

The West African "bush" school. In the West African "bush" school we find at the preliterate level a highly formalized school.[4] The school is set apart as any school for highly

[3] D. Pierson, "The Educational Process and the Brazilian Negro," *American Journal of Sociology*, 1943, Vol. 48, pp. 692–700.

[4] M. H. Watkins, "The West African 'bush' School," *American Journal of Sociology*, 1943, Vol. 48, pp. 666–675.

specialized instruction must be, although the educational activities are much more closely correlated with the purposes they serve than is the case in our schools. The values are more immediate and personal. The sense of personal responsibility of the learner is likely to be high, inasmuch as the end has social sanction and great prestige and the means is readily understood, *i.e.*, perceived to be appropiate to the end.

To begin with, the school amounts to a kind of secret society, separate societies being maintained for boys and girls. Training is a prerequisite to acceptance as a worthy and responsible member of society, as an initiate. The schools are held in special sections of forests set aside for the purpose. The length of the school varies from a few months to several years. Once a pupil has entered the premises he may not on any account leave until his schooling is completed. Only the initiated may enter the area. The principal figure in the boys' school is a leader of great mystic power and prestige. He commands great respect not only among his pupils but also among the chieftains and elders of the tribes. He is well versed in "native lore, arts and crafts," and "in the history and traditions of his people." [5] He is assisted by a number of specialists in the various fields of instruction. On festive occasions the principal robes himself in costumes of great splendor. Upon his arrival in a village all the uninitiated must remain behind closed doors.

Upon entering the forest the boys, under the tutelage of their teachers, erect the village that is to house them during the school term (this is burned at the close of the term). They maintain the buildings, till the fields, and receive instruction in the various arts and crafts of tribal life, as well as training in the art of warfare and in various sports and other forms of recreation and in hunting. Instruction is also received in family and tribal life, including etiquette, tribal laws and traditions, the art of healing, and religion and ceremony. Thus while the "bush" school is set apart from the normal life of the village and the chiefdom, this life is in large measure recreated, with the result that the values retain much of the personal aspect of informal education.

[5] *Ibid.*

When the term of instruction comes to an end and the school and the accomplishments are inspected by representatives of the chief, the boys return to the village amid great pomp and ceremony, lasting altogether several days. They are lavished with gifts and are permitted special privileges. Afterwards they return to their homes with full privileges of citizenship and even new names by which they are ever afterward known to the initiated – all of which serve to bestow social sanction upon the schooling. Suffice it to say that similar schools are maintained for girls, with instruction appropriate to their walk of life. One cannot escape the reflection that from the West African point of view these schools must surely be remarkably efficient.

Midwestern highlands of Guatemala. We shall sketch some of the features of education in the midwestern highlands of Guatemala, as described by Redfield, communities which are as he says intermediate, in many respects, between "the simple tribe and the modern city."[6] These communities have formal education as provided by schools, and the informal education of myth, legend, and ceremony; but neither type is of any great force. In reading Redfield's article one gathers the impression that here there is no great enthusiasm for reading, writing, and arithmetic – the principal content of the curriculum. Perhaps this is so because the schools play a minor role in perpetuating the culture of these societies. "Except for the texts of prayers recited on many occasions, little of the rural Ladino heritage depends on literacy." Few opportunities present themselves for the turning of literacy to any social account. In comparison with our own societies, literacy has little prestige. On the other hand, ceremony, ritual, and religious lore have no great hold on the people.

In so far as the effective elements of instruction go they seem to be derived from informal, incidental learning and teaching. This is as true in school as in the home and in the casual associations of people. There exist two cultures in these communi-

[6] R. Redfield, "Culture and Education in the Midwestern Highlands of Guatemala," *American Journal of Sociology*, 1943, Vol. 48, pp. 640–648.

ties – the Indian and the Ladino. The latter comprise a minority group of Spanish speaking people of mixed racial stock. Although largely Indian in race, the Ladinos have maintained certain elements of Spanish culture. In the schools the Indians learn to speak the Spanish language, though it is not one of the subjects of the curriculum, and tend to adopt Ladino dress and customs. The Ladinos also are influenced by Indian culture. Here we find the school fostering the amalgamation of two cultures, but doing so quite over and above formal instruction or any other function of the school as formally rationalized. Here the school as a social group is of considerably greater importance than the school as a formally organized institution for the teaching of reading, writing, and arithmetic.

While in American schools the curricular content is of much greater importance than in the midwestern highlands of Guatemala, we may find, as an extremely important function of the school, similar processes of acculturation, notably between the immigrant and native-born youth. This is especially true where dissimilarities in cultural level, or racial, religious, and national prejudices, are not so great as to constitute a barrier to group interaction (*cf.* Chapter III).

Despite the fact that the schools, save as they function as informal social groups, are of comparatively little consequence, and that there is no very systematic body of totemic culture transmitted by ritual and ceremony, these societies do perpetuate themselves by educative processes and show some evidences of growth. Perhaps it may be allowed that this Guatemalan society is favored by the absence of systematic and rigid totemism – a condition that frees a society from the fetters of the past – without at the same time having replaced it with positive conditions that make for any very great advancement. Fortunately, we are here permitted to see certain educative processes at work which might well be covered up by other and more potent processes, as in the more formalized indigenous culture of Africa or Australia or in our more elaborate and effective system of formal education. Thus we may see here more clearly than in most instances that the *process of educa-*

tion is chiefly one of communication, as beliefs, superstitions, customs, and information are presented, reacted to, confirmed, denied, modified, and passed on by word and gesture as a process of social interaction – without there being set aside any time or place for instruction. Imagine a scene outside a house in a certain village.

"Six men and two boys stand around a little fire and talk. Someone compares the heaping-up of pine cones made ready for this fire to the heaping-up of twigs by Indians at certain places on hilltops where, by Indian custom, the traveler strokes away the fatigue from his legs with a twig and then adds the twig to a growing pile. As soon as the comparison has been made, one man of those beside the fire expresses derision at this Indian belief, which is well known to all present. Others briefly indicate similar disbelief in the custom. Another man then makes a remark to the effect that what does in fact serve to relieve tired legs is to rub rum on the ankle-bones. A younger man – apparently unfamiliar with this remedy – asks how this can be effective, and the older man explains that the rum heats the nerves that run near the ankle-bone and that the heat passes up the body along the nerves and so restores strength. The explanation is accepted; the apparent physiological mechanism provides a warrant for accepting the worth of rum as a remedy.

"After a short period of silence, conversation begins about snakes, one man having recently killed a large snake. A young boy, apparently wishing to make an effective contribution to a conversation in which he has as yet played no part, remarks that the coral snake joins itself together when cut apart. The man who laughed at the Indian belief about tired legs scornfully denies the truth of the statement about coral snakes. Another older man in the group comes to the support of the boy and in a tentative way supports the truth of the belief as to coral snakes. A younger man says that it is not true, because he cut apart such a snake without unusual result. The skeptical man appeals to the company; another witness offers testimony unfavorable to the belief. The boy has not spoken again; the other man who ventured to support him withdraws from the argument. But this man wishes, it seems, to restore his damaged prestige. With more confidence he offers the statement that some animals *can* do unusual things: the monkey, when shot by a gun, takes a leaf from the tree in which he is sitting and with it plugs the wound. The smaller of the two boys, who has not yet spoken, adds that the jaguar can do this also. Discussion breaks out, several persons speaking at once; the trend of the remarks is to the effect that, although undoubtedly the monkey can do as described, the jaguar is

unable to do so. The quick statements of opinion break out almost simultaneously, and very quickly thereafter the matter is dropped. The bystander recognizes that there is substantial consensus on the points raised; the boy is apparently convinced." [7]

It is, of course, a matter of speculation as to the amount and kind of education mediated by the foregoing conversation. No one would contend that such a conversation would settle the matters at issue; but it seems inevitable that something of educational significance did result. Standing by itself it would not amount to much, but when encompassing many groups in many generations and touching upon many topics the total effect of such forms of intercommunication must surely be of considerable educational consequence. For the eight persons present the conversation probably added some small bit to disbelief in the power of coral snakes to join themselves together again and in the restorative powers of the twig ritual and in the jaguar's habit of treating its wounds. On the other hand it is likely that the conversation had the tendency to add credence, at least to a degree, to the restorative powers of rum and in the monkey's habit of treating its wounds. Should those present, singly or collectively, find themselves in company with other men and should conversation run to these same topics they would by virtue of this previous conversation tend to be more skeptical than they otherwise would have been relative to the theses respecting coral snakes, the twig ritual, and the jaguar, and more affirmed in their opinions relative to the propositions stated about monkeys and rum.

Spontaneous learning. One of the salient aspects of the kind of learning we have been considering up to now is its spontaneity. Examples of the things the youth are expected to learn are everywhere present, examples that are re-enforced by social sanctions. Here, as Mead has said, learning, not teaching, is in the fore. The learner is in a position of seeking to learn something rather than being faced with a situation in which a teacher wishes to teach something – something which the learner does not of his own accord seek out, as is so often the case in our schools. "There are several striking differences

[7] *Ibid.* Reproduced by courtesy of the author.

between our concept of education today and that of any contemporary primitive society; but perhaps the most important one is the shift from the need for an individual to learn something which everyone agrees he would wish to know, to the will of some individual to teach something which it is not agreed that any one has any desire to know." [8] While this statement is not entirely true – tens of thousands of American children are probably as desirous of learning to read as the Eskimo children are of learning to spear fish or chew boots, the point is well taken and may stand as one of the fundamental differences between the formal learning in our schools and the informal learning in contemporary primitive or highly cultivated societies.

Indeed one does not have to go to the South Seas to observe instances of spontaneous learning. The advantage in doing so is that there where formal schooling is very largely absent we may the more clearly see the force of education as fostered almost solely by interaction in primary groups. Education of this kind goes on in our modern homes and communities and in our schools. We could, by abandoning our schools and otherwise desisting from teaching our children anything which they did not first wish to know, or trying to create desires for learning which did not well up out of their own social life, rival preliterates in their education, save for the fact that our customs are not re-enforced to so great an extent by the coercive power of ritual and ceremony. We would of course gradually return to tribal conditions. We cannot avoid the observation that primitive education, which is sometimes held up as an ideal worthy of our emulation, does not produce civilized people, whereas our "inferior" kind does. It is by teaching children things most of them do not wish to know – or *did* not wish to know as a natural consequence of their own social life – that we have raised the whole cultural level of mankind.

The only practical choice we have, it seems, is to continue along present lines, of course doing a more effective job whenever possible, or providing separate educational programs for

[8] M. Mead, "Our Educational Emphases in Primitive Perspective," *American Journal of Sociology*, 1943, Vol. 48, pp. 633–639.

the various cultural elements of our society such that the instruction provided for the pupils in each element would be commensurate with the normal desires that grow out of their cultural status. The latter procedure is in some respects defensible, psychologically. At least it is consonant with the condition that learning proceeds best when there is spontaneous seeking to learn, and when the instruction is adjusted to the cultural advancement of the people. However, such a program would almost inevitably accentuate social stratification in our national life and would tend to lead us more definitely toward a caste system. This is a question for educational philosophy, and is not to be settled entirely upon psychological grounds.

Even so, the issue raised by Mead cannot be easily set aside. It brings to focus the smooth efficiency of informal learning. There is no thought that we should abandon formal instruction, for the very existence of our schools is proof of our recognition of the fact that many things can be better taught formally than informally. In fact it may be argued successfully that formal, systematic instruction is quite superior to the informal kind. But the latter, as a natural consequence, capitalizes on some of the conditions of learning more effectively than the former. Perhaps, by determining those conditions that make informal learning effective, we can apply some of them to formal learning.

The question is to what extent our educational aims, nationally considered, are compatible with a procedure based upon spontaneous desires to learn. In preliterate society education serves to perpetuate the society and preserve it against change. One of the functions served by ceremony and ritual is to keep out interlopers, just as the formal rules of etiquette and correct speech and dress preserve polite society from inroads by the uninitiated. Our educational aims are not merely to preserve and perpetuate the social heritage, but also to advance and to raise the whole cultural level of society by extending our cultural products to all the youth – many of whom are admittedly not ready for them in the sense that they go out seeking them. Obviously this procedure creates dislocations and must operate against great difficulty. The task of transmitting culture to

groups that have little or no spontaneous interest in it is a difficult one.

Our choice is one between awaiting the slow processes of acculturation and providing schools to teach only that which is sought by the pupil, or proselytizing, *i.e., providing persons with a zeal to teach that which the great majority have no spontaneous desire to learn.* Of course we try to create the desire to learn, but this is proselytizing. To do a very inefficient job of schooling people who by reason of the culture lag are lacking in interest in it may be better than passing them by.

What does it mean to have a spontaneous interest in learning – to have a condition in which the learner seeks to know as opposed to one in which someone seeks to teach something the learner does not wish to know except as he is motivated by extraneous devices? Let us first see what it is not. It is not a natural interest, like appetite, which people everywhere have because they are people. It does not pertain to any fixed content that is alike for all people. Spontaneous interest in learning comes about as a resultant of a particular set of cultural forces operating in a particular social situation. In one such situation the desire to learn to read the vernacular may be quite spontaneous, and in another entirely lacking. Interests are not spontaneous because they are primitive, although in primitive society education is largely limited to spontaneous interests. The latter circumstance certainly makes for an easy-running *process,* while the *results* achieved by our system are incomparably superior – at least from our standpoint.

Our youth not only become indoctrinated with a contemporary culture vastly more complex than that of the Bushman or native Australian; but they gain a fair knowledge of the culture of all ages. Redfield has noted that "In comparison with the educational effect of a *katchina* dance upon a Hopi child, a chapter in a civics textbook seems pretty thin, educationally speaking."[9] Of this there is no doubt. But civics and other subjects of its kind poorly learned is of vastly more worth, educationally, than the *katchina* dance and all its kind in Hopi cul-

[9] *Op. cit.*

ture well learned, if, of course, it be admitted that intellectual development is desirable – which after all may be debatable.

ON INDOCTRINATION

In a very general sense all education may be thought of as a process of indoctrinating the members of a society with its cultural heritage. But when the society is a homogeneous one and membership in it hereditary, there is no indoctrination in the sense of proselytizing or winning converts. There is a minimum of proselytizing in primitive societies. Wherever other cultures are known to primitive people, there most likely exists a belief in the superiority of their own culture. This would seem to be necessary to prevent encroachment. If this is so, we may suggest that a plausible reason why proselytizing is not everywhere present is that membership is regarded as hereditary. (The idea of superiority may not actually be present, though it is difficult to see how it could be otherwise.) A notable contemporary illustration is at hand in the case of the Jews, on the one hand, and Catholics and Protestants, on the other. The latter everywhere send out missionaries – sometimes to the positive degradation of the people converted – and otherwise engage in recruiting. In so far as the writer knows, these practices are not engaged in by the Jews – perhaps in part at least for the reason that membership is largely hereditary.

Wherever the idea of superiority becomes fixed in the thinking of a people – superiority of beliefs, dogma, and other cultural elements, or superiority of one cultural stratum or class as opposed to another – active indoctrination occurs, except where the idea of birthright is involved. ". . . wherever this notion of hierarchical arrangements of cultural views of experience appears, it has produced effects upon education; and it has enormously influenced our own attitudes toward education." [10]

The dominant note in education in America, in so far as it has become articulate, has been the use of schools as instru-

[10] Mead, *op. cit.*