

On Education

by

Albert Einstein

Excerpts from an address by Albert Einstein to the State University of New York at Albany, on the occasion of the celebration of the tercentenary of higher education in America, 15th October, 1931. Reference - "Ideas and Opinions" by Albert Einstein.

A day of celebration generally is in the first place dedicated to retrospect, especially to the memory of personages who have gained special distinction for the development of the cultural life. This friendly service for our predecessors must indeed not be neglected, particularly as such a memory of the best of the past is proper to simulate the well-disposed of today to a courages effort. But this should be done by someone who, from his youth, has been connected with this State and is familiar with its past, not by one who like a gypsy has wondered about and gathered his experiences in all kinds of countries.

Thus there is nothing else left for me but to speak about such questions as, independently of space and time, always have been and will be connected with educational matters. In this attempt I cannot lay any claim to being an authority, especially as intelligent and well-meaning men of all times have dealt with educational problems and have certainly repeatedly expressed their view clearly about these matters. From what source shall I, as a partial layman in the realm of pedagogy, derive courage to expound opinions with no foundations except personal experience and personal conviction? If it were really a scientific matter, one would probably be tempted to silence by such considerations.

However, with the affairs of active human beings it is different. Here knowledge of truth alone does not suffice; on the contrary this knowledge must continually be renewed by ceaseless effort, if it is not be lost. It resembles a statue of marble which stands in the desert and is continually threatened with burial by the shifting sand. The hands of service must ever be at work, in order that the marble continues lastingly to shine in the sun. To these serving hands mine shall also belong.

The school has always been the most important means of transferring the wealth of tradition from one generation to the next. This applies today in an even higher degree than in former time, for through modern development of the economic life, the family as bearer of tradition and education has been weakened. The continuance and health of human society is therefore in a still higher degree dependent on the school than formerly.

Sometimes one sees in the school simply the instrument for transferring a certain maximum quantity of knowledge to the growing generation. But that's not right. Knowledge is dead; the school, however, serves the living. It should develop in the young individuals those equalities and capabilities which are of value for the welfare of the commonwealth. But that does not mean that individuality should be destroyed and the individual becomes a mere tool of the community, like a bee or an ant. For a community of standerzided individuals without personal originality and personal aims would be a poor community without possibilities for development. On the contrary, the aim must be the training of

independently thinking and acting individuals, who, however, see in the service of the community their highest life problem.

But how shall one try to attain this ideal? Should one perhaps try to realize this aim by moralizing? Not at all. Words are and remain empty sound, and the road to perdition has ever been accompanied by lip service to an ideal. But personalities are not formed by what is heard and said but by labor and activity.

The most important method of education accordingly always has consisted of the where pupil was urged to actual performance. This applies as well to the first attempts at writings of the primary boy as to the doctor's thesis on graduation from the university, or as to the mere memorizing of a poem, the writing of a composition, the interpretation and translation of a text, the solving of a mathematical problem or the practice of a physical sport.

But behind every achievement exists the motivation which is at the foundation of it and, which in turn is strengthened and nourished by the accomplishment of the undertaking. Here, there are the greatest differences and they are of greatest importance to the education value of the school. The same work may owe its origin to fear and compulsion, ambitious desire for authority and distinction, or loving interest in the object and a desire for truth and understanding, and thus to that divine curiosity which every healthy child possesses, but which so often is weakened early. The educational influence which is exercised upon the pupil by the accomplishment of one and the same work may be widely different, depending upon whether fear of hurting egoistic passion, or desire for pleasure and satisfaction is at the bottom of this work. And nobody will maintain that the administration of the school and the attitude of the teachers do not have an influence upon the moulding of the psychological foundation for pupils.

To me the worst thing seems to be for a school principally to work with methods of fear, force, and artificial authority. Such treatment destroys the sound sentiments, the sincerity, and the self confidence of the pupil. It produces the submissive subject. It is not so hard to keep the school free from the worst of all evils. Give into the power of the teacher the fewest possible coercive measures, so that the only source of the pupil's respect for the teacher is the human and intellectual qualities of the latter.

The second-named motive, ambition or, in milder terms, the aiming at recognition and consideration, lies firmly fixed in human nature. With absence of mental stimulus of this kind, human cooperation would be entirely impossible; the desire for approval of one's fellow-man certainly is one of the most important binding powers of society. In this complex of feelings, constructive and destructive forces lie closely together. Desire for approval and recognition is a healthy motive but the desire to be acknowledged as better, stronger, or more intelligent than a fellow being or fellow scholar easily leads to an excessively egoistic psychological adjustment, which may become injurious for the individual and for the community. Therefore the school and the teacher must guard against employing the easy method of creating individual ambition, in order to induce the pupils to diligent work.

Darwin's theory of the struggle for existence and the selectivity connected with it

has by many people been cited as authorization of the encouragement of the spirit of competition. Some people also in such a way have tried to prove pseudo-scientifically the necessity of the destructive economic struggle of competition between individuals. But this is wrong, because man owes his strength in the struggle for existence to the fact that he is a socially living animal. As little as a battle between single ants of an ant hill is essential for survival, just so little is this the case with the individual members of a human community.

Therefore, one should guard against preaching to the young man success in the customary sense as the aim of life. For a successful man is he who receives a great deal from his fellow men, usually incomparably more than corresponds to his service to them. The value of a man, however, should be seen in what he gives and not what he is able to receive.

The most important motive for work in the school and in life is pleasure in work, pleasure in its results, and the knowledge of the value of the result to the community. In the awakening and strengthening of the psychological forces in the young man, I see the most important task given by the school. Such a psychological foundation alone leads to a joyous desire for the highest possessions of men, knowledge and artist-like workmanship.

The awakening of the productive psychological powers is certainly less easy than the practice of force or the awakening of individual ambition but is the more valuable for it. The point is to develop the childlike inclination for play and the childlike desire for recognition and to guide the child over to the important fields for society; it is that education which in the main is founded upon the desire for successful activity and acknowledgement. If the school succeeds in working successfully from such points of view, it will be highly honored by the rising generation and the tasks given by the school will be submitted to as a sort of gift. I have known children who preferred schooltime to vacation.

Such a school demands from the teacher that he be a kind of artist in his province. What can be done that this spirit be gained in the school? For this there is just as little a universal remedy as there is for an individual to remain well. But there are certain necessary conditions which can be met. First, teachers should grow up in such schools. Second, the teacher should be given extensive liberty in the selection of the material to be taught and the methods of teaching employed by him. For it is true also of him that pleasure in the shaping of his work is killed by force and exterior pressure.

If you have followed my meditations upto this point, you will probably wonder about one thing. I have spoken fully about what spirit, according to my opinion, youth should have instructed. But I have said nothing yet about the choice of subjects for instruction, nor about the method of teaching. Should language predominate or the technical education in science?

To this I answer: in my opinion all this is of secondary importance. If a young man has trained his muscles and physical endurance by gymnastics and walking, he will later be fitted for every physical work. This is also analogous to the training of the mind and

of the mental and manual skill. Thus, the wit was not wrong who defined education in this way: "Education is that which remains, if one has forgotten everything he learned in school." For this reason I am not at all anxious to take sides in the struggle between the followers of the classical philologic-historical education and the education more devoted to natural science.

On the other hand, I want to oppose the idea that the school has to teach directly that special knowledge and those accomplishments which one has to use later directly in life. The demands of life are much too manifold to let such a specialized training in school appear possible. Apart from that, it seems to me, moreover, objectionable to treat the individual like a dead tool. The school should always have as its aim that the young man leave it as a harmonious personality, not as a specialist. This in my opinion is true in a certain sense even for technical schools, whose students will devote themselves to a quite definite profession. The development of general ability for independent thinking and judgement should always be placed foremost, not the acquisition of special knowledge. If a person masters the fundamentals of his subject and has learned to think and work independently, he will surely find his way and besides will better be able to adapt himself to progress and changes than the person whose training principally consists in the acquiring the detailed knowledge.

Finally, I wish to emphasize once more that what has been said here in a somewhat categorical form does not claim to mean more than the personal opinion of a man, which is founded upon nothing but his own personal experience, which he has gathered as a student and as a teacher.